Missouri Southern College

Missouri Southern College

Operated by

THE JUNIOR COLLEGE DISTRICT OF JASPER COUNTY, MISSOURI

Announcements and General Information

> ISSUE FOR 1965 - 1966

ACCREDITED

State Department of Education
North Central Association of Colleges and Secondary Schools

MEMBERSHIPS

American Association of Junior Colleges

American Association of Collegiate Registrars and Admissions

Officers

National Junior College Athletic Association

North Central Association of Colleges and Secondary Schools

Council of North Central Junior Colleges

Higher Education Division of the National Education Association

Missouri College Newspaper Association

Missouri Association of Collegiate Registrars and Admissions Officers

> Interstate Athletic Conference National Commission on Accrediting

Missouri Southern College Joplin, Jasper County, Missouri

MISSOURI SOUTHERN COLLEGE

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Mechanical Technology
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MISSOURI SOUTHERN COLLEGE

BOARD OF TRUSTEES

1965 - 1966

Fred Hughes

Norval M. Matthews

L. R. Reynolds, Jr.

Gene Taylor

Thomas E. Taylor

Elvin Ummel

OFFICERS

Fred Hughes, President
Gene Taylor, Vice President
Norval M. Matthews, Secretary
Mills H. Anderson, Treasurer

MISSOURI SOUTHERN COLLEGE

JOPLIN, MISSOURI

CALENDAR FOR YEAR 1965 - 1966

FIRST SEMESTER

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August 23 (or after) Pick up a "Permit to Enroll" at the Registrar's Office
September 7 (9:00 a.m.)
1966—
January 3 (8:00 a.m.) January 17-20 Final Examinations January 21 (at close of session) SECOND SEMESTER
January 26 (9:00 a.m.)

June 3 (at close of session)Second Semester EndsJune 5 (3:00 p.m.)BaccalaureateJune 6 (8:00 p.m.)Commencement Exercises

FACULTY

ADMINISTRATION

Leon C. Billingsly
C. O. Robinson
Margaret Mitchell
Mrs. Loretta Frazier Librarian B. S., Northwest Missouri State College B. S., in Library Science, University of Illinois
Dudley F. Stegge . Physical Education and Director of Student Activities B. S., M. S., Kansas State College of Pittsburg
James K. Maupin
Lloyd L. Dryer
Mrs. Betty Barcom Library Secretary
Mrs. Carolyn Beers Office Secretary
Mrs. Mary Johnson Office Secretary
Mrs. Neoma Moore Office Secretary
Carol Swanson Office Secretary
John F. Johnson Bookkeeper
Mrs. Patsy A. Wood

INSTRUCTORS

V. L. Anderson
Dale R. Bates
Russell E. Benzamin Theory, Piano and Instrumental Ensemble B. S., Southwest Missouri State College M. A., Colorado State College Student of Wilfred Adler, Dale Dykins, Dr. William T. Gower
David C. Bingman
Arthur Boles
Milton W. Brietzke
C. E. Cowan
Larry D. Dunham English A. A., Missouri Southern College B. A., M. A., University of Missouri
John G. Eli
Barbara N. Frizzell English B. A., M. A., University of Arkansas
John Barry Gilmore
Harry C. Gockel
R. Wayne Habermehl
Cleetis Headlee English and Journalism B. S., A. M., University of Missouri

INSTRUCTORS

T. L. Holman History
A. B., Southwestern College, Winfield, Kansas M. A., Kansas State College of Pittsburg
Mrs. Julie Hughes
Duane L. Hunt
Paul E. Jensen
J. Merrell Junkins
Harrison M. Kash Chemistry B. A., Kansas State College of Pittsburg M. S., Kansas State University of Agri. and Applied Science
Mrs. Kathryn Koger Commerce B. S., Kansas State College of Pittsburg M. B. E., The University of Tulsa
Douglas Landrith
J. Larry Martin Mathematics A. A., Missouri Southern College B. S., M. A., The University of Tulsa
Martha Ann McCormick
Louis D. McMillan Electronics Technology B. S., Southwest Missouri State College
Mrs. Grace Clayton Mitchell English and Speech A. B., Greensboro College M. A., Pennsylvania State University

INSTRUCTORS

Eula Ratekin Chemistry
A. A., William Woods College, Fulton, Missouri
A. B., A. M., University of Missouri
Gail K. Renner Political Science and History
B. S., Southwest Missouri State College
M. A., University of Missouri, Kansas City
M. A., University of Missouri, Columbia
Alfred H. Rogers English
B. S., M. A., Kansas State College of Pittsburg
M. A., University of Missouri, Columbia
Bobbie Z. Short English
B. S., Southwest Missouri State College
M. S., Kansas State College of Pittsburg
Lela A. Smith English
A. B., and B. S., Drury College
A. M., George Peabody College for Teachers
Oliver Sovereign Voice and Vocal Ensembles
B. S., Kansas State College of Pittsburg
Studied with Herbert Wall, University of Missouri;
Vincent Hubbard and Stephen Townsend, Boston;
Louis Graveure and Enrico Rasati, New York City
Mrs. Lillian Spangler Foreign Languages
A. B., A. M., University of Missouri
Dorothy Stone
B. S., A. M., University of Missouri
Arthur L. Strobel
B. S., Southeast Missouri State College
M. S., University of Arkansas
Annetta Strong Political Science and History
A. B., M. A., Kansas State College of Pittsburg
Ronald Toman Physical Education
B. S., M. E., University of Missouri
Mrs. Ima J. Van Natter English
A. B., Friends University, Wichita, Kansas
M. S., Kansas State College of Pittsburg
Mrs. Ruby A. Wiley English and Foreign Languages
B. S., Southwest Missouri State College
M. A., University of Missouri
Keith Wormington Machine Shop
Twenty-one years trade experience
University of Missouri
Venus Yount
B. S., Kansas State College of Pittsburg
M. A., University of Arkansas

APPLIED MUSIC

Mrs. Marguerite Carney Studied with Herbert Witherspoon, Director of Metropolitan Opera; Schumann Heink and Mack Harrell, who were with the Metropolitan Opera; Eduardo Sacerdote, operatic coach; Conrood Bos, authority in German Lieder, also coach of Helen Traubel	
Sara Anne Gilstrap Double Reeds and C	larinet
Associate in Music, Missouri Southern College B. M. E., M. S., Kansas State College of Pittsburg	
Marie A. Guengerich	Piano
Robert A. Harris	Piano
A. Music, Missouri Southern College B. Music, M. S., Kansas State College of Pittsburg Student with Rosina Lhevinne	
Mrs. M. H. Harutun Three years study, Kansas City Conservatory Special study with John Thompson, James Friskin and Dorothy Dring Smutz	Piano
William J. Lebedeff B. P. S. M., University of Miami M. M., University of Michigan "Specialist in Music Ed.," Columbia University Student of Francis Hellstein, Detroit Symphony	Brass
James R. Norman Tr	umpet
Mus. B., Drury College M. Mus. Ed., University of Colorado	•
Mrs. Mary Bingham Porter Graduate, Drake School of Music, Chicago; Graduate work at Von Ende School of Music, New York; Special study with Sametini, and with Jacques Gordon, Master classes of Leopold Auer; Harold Berkley; Louis Persinger	Violin
Mrs. Lorraine Riley Two years study at Kansas City Conservatory of Music; Five years private vocal instruction with Eleanor McLellan, (Teacher of Eileen Farrell), New York City, Five years private opera coaching with Jean Paul Morel and Fritz Mahler	Voice
Mrs. Roberta Sovereign	Piano

SECTION 1

GENERAL INFORMATION

The information given in this catalog is for the school year 1965-1966. Changes may be made at any time. Any student registered in Missouri Southern College should refer to his catalog frequently to guide his progress. He will find statements on almost any problem that may arise. All decisions will be based on what is stated in the catalog. Any individual, interested in attending the College, can find details of requirements for registration, fees and other matters herein.

HISTORICAL STATEMENT

Missouri Southern College is operated by the Junior College District of Jasper County, Missouri.

In September, 1937, Joplin Junior College opened classes for the first time. Supported by the taxpayers of the Joplin School bistrict, housed in the same building with Joplin Senior High School and functioning through the Extension Division of the University of Missouri, the Col-

lege was organized as part of the Joplin school system.

On September 6, 1938, the College moved into its own buildings located at Fourth and Byers and offered a full two-year program. Franklin Technical School, 13th and Pearl, was dedicated March 21, 1948, and has continued to offer college-level technical programs. In 1958, the College was moved from the Byers Avenue Campus to the present location, 310 West Eighth Street.

On April 7, 1964, the Citizens of Jasper County voted to create a Jasper County district college under the administration of a six-member Board of Trustees elected by the Citizens of the College District. In May, 1965, the College Board of Trustees adopted the name of Missouri

Southern College.

PURPOSES

The particular objectives of Missouri Southern College are four in number:

- (1) To provide an Arts and Science curriculum for those expecting to continue in colleges and universities.
- (2) To provide semi-professional curriculums that will enable the graduate to enter fields bordering on the professional or technical work that does not require graduation from professional schools.
- (3) To provide as many terminal vocational curriculums as possible; to meet the needs of a large number of students who may not wish to, or cannot, give more than two years further preparation for their life's work.
- (4) To provide opportunity for individuals not interested in college degrees, to enrich their cultural backgrounds and to improve and advance themselves vocationally.

ACCREDITATION

Missouri Southern College is a member of the American Association of Junior Colleges, and is accredited by the North Central Association of Colleges and Secondary Schools, and by the State Department of Education.

ARMED SERVICE INFORMATION

Veterans

The College is accredited with the Veterans Administration.

Students who are entitled to receive government benefits should contact the college office on Registration Day.

Selective Service

Undergraduate College Student Certificates (Form 109) are sent from the office of the Registrar to the respective Draft Boards so the students currently enrolled may secure educational deferment. All male students may request that Form 109 be sent if they are registered with the Draft Board and doing satisfactory work.

ADULT EDUCATION

College-credit courses are offered in the evening program to accommodate those who must work during the day. Any course offered in the day program will be offered in the evening if there is sufficient demand. A minimum of fifteen students is required. The tuition is seven dollars per semester hour plus a one dollar registration fee each semester except courses offered in the Franklin Technical School.

BUILDINGS AND EQUIPMENT

The College campus is located at 8th Street and Wall Avenue. It is within walking distance of the business district and bus terminals, accessible by highways, and on interurban bus routes and is adjacent to the Joplin Carnegie Library.

Franklin Technical School is located at Thirteenth and Pearl Avenue. This large building contains the classrooms and laboratory areas for the electronic and mechanical technology curriculums and the office of

the Director of Technical Education. This is one of the best equipped technical schools in this section of the country.

All football games are played at Junge Stadium, Thirteenth and Murphy Avenue, and basketball games are played in the Memorial Hall, located at 212 W. 8th Street.

STUDENT PERSONNEL SERVICES

The Library

The College Library plays an integral part in the educational development of the students. The collection of 14,000 books, 114 periodicals and 6 daily newspapers has been carefully selected and offers an exceptional collection of standard and recent materials in reference, research, and the fields covered by the various curriculums.

Two reading and reference rooms provide adequate seating capacity. Open book stacks, the reference collection and newspapers are housed in the main reading room, while current and bound magazines are conveniently arranged in an adjacent periodical room. All students have stack privileges and are encouraged to select books for class work and recreational reading. Magazines and books placed on reserve reading lists are checked for overnight use only; books not so reserved may be checked for two-week periods.

In addition to the College collection, facilities of the Joplin Carnegie Library, are available to students and faculty for consultation.

Living Quarters for Students

Students who come from outside Joplin can find sleeping rooms with kitchen privileges, and small apartments in many private homes easily accessible to the College. Rooms are also available for students at the Y.M.C.A. and the Y.W.C.A. Residences. (Application should be sent directly to the Y.M.C.A. or the Y.W.C.A. Residence.)

Counseling

Every student at some time needs personal and individual help if he is to improve his planning and solve his problems. To insure each student of this help, a faculty adviser is assigned at the beginning of the freshman year. The duties of these advisers are threefold: (1) to help the student in planning his course of study and in solving his scholastic problems so that he may get the best education commensurate with his ability and capacity, (2) to assist the student to choose a vocation, prepare for, enter upon, and progress in it, and (3) to help the student to make his own decisions with respect to personal problems.

GUIDANCE EXAMINATIONS

Each student entering Missouri Southern College for the first time

is required to take a series of tests.

Tests administered at the College are those given by the University of Missouri and other Missouri colleges that are members of the Missouri College Cooperative Program. These tests are administered to high school seniors during the spring semester and can be taken from any one of these centers. High school seniors will be notified of the time and place of the tests through their high school offices.

SCHOLARSHIPS

On April 2, 1957, The Board of Education of the School District of Joplin established two Scholarships in memory of Mr. H. E. Blaine, the first Dean of the Joplin Junior College. These scholarships, based on academic achievement, are awarded by Missouri Southern College to the highest-ranking boy and girl at the end of their freshman year and are to be used the following year in Missouri Southern College.

The College Alumni Association offers a scholarship open to any student nominated by an alumnus. Preference, however, will be given to

sons and daughters of alumni.

Nominations for the Alumni Scholarship must be mailed to the Alumni Scholarship Committee, Missouri Southern College, before April 15.

The College offers scholarships to high-ranking high school graduates. These scholarships are sent to the administrators of the high schools and the recipients are selected by them. To be eligible, a student must rank in the upper ten per cent of the graduating class.

Scholarships are also offered to students who have demonstrated their ability to give outstanding performances in athletics, drama or music. Scholarships are for one year and students must participate in the activities for which the scholarships are granted.

The BANK OF CARTHAGE, Carthage, Missouri, offers a scholar-ship annually to an outstanding freshman student to be used during the sophomore year. Applications must be received by April 15, of the student's freshman year and should be addressed to the Missouri Southern College, Scholarship Committee.

The RUSSELL BELDEN MEMORIAL SCHOLARSHIP FUND: Scholarships will be awarded from the Fund at the beginning of each year to selected members of the Sophomore Class on the basis of need, scholarship and character. The recipients must spend their sophomore year in pursuit of an associate degree from Missouri Southern College.

The CIRCLE K CLUB of Missouri Southern College offers a sophomore scholarship to a male student completing his freshman year at the college with a cumulative grade-point average of 2.3. The scholarship is based on need, leadership in the college and scholarship. Applications must be received by April 15, of the student's freshman year and should be addressed to Missouri Southern College, Scholarship Committee.

The ADA COFFEY SCHOLARSHIP: In 1963, a former student established a scholarship in the name of Miss Ada Coffey, instructor in English and literature at the College from September 1937, to August, 1963. The recipient of the scholarship must pursue an Associate in Arts degree from Missouri Southern College.

The Asssembly

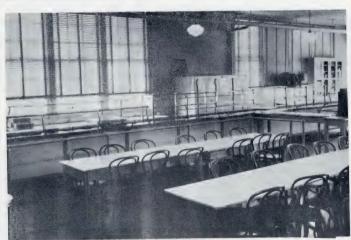
The College offers various programs that are entertaining, informative, esthetic, and spiritual.



Central Auditorium and Assembly

The Cafeteria

The Cafeteria has the facilities for serving several hundred students. The policy of the Cafeteria is to serve well-balanced meals at a very low cost to the students.



The popular gathering place at noon and between classes

Student Loans

THE IRWIN MEMORIAL FUND was established in memory of Arnold E. Irwin, instructor of political science at Joplin Junior College from 1946 to 1959. The Exchange Club of Joplin created a loan fund for deserving students of Missouri Southern College. The fund is available to students for emergency short-term loans. No security is required of the borrower, except that a note will be drawn up at the time the loan is made, for interest to begin at a time set by the adviser and the student. No interest will be charged before the time set in the adviser-student conference. The fund is administered by the Dean of the College and an advisory committee.

Missouri Southern College participates in the NATIONAL DE-FENSE STUDENT LOAN PROGRAM. The purpose of the Program is to provide student loan funds for making long-time low-interest loans to students to pursue their college education.

Institutional Capital Contributions for the National Defense Student Loan Program have been obtained by donations from former students, funds of inactive student organizations and, a donation, on Decem-

ber 1, 1960, from the Kappa Upsilon Pi Study Club of Joplin.

To be eligible for a loan, a student must be in need of the amount of the loan, pursue a course of study at the institution, be capable of maintaining good standing in the courses, and have been accepted for enrollment as a student, or if already attending an institution, be in good standing and in attendance.

Work-Study Program

Missouri Southern College is participating in Title I-C of the Economic Opportunity Act of 1964. This section of the act is commonly referred to as the College Work-Study Program and is designed to provide jobs for college students whereby they may earn a significant portion of their current expenses while attending College. In order for students to be eligible to participate in this program, they must show that the financial aid received is necessary for them to attend college.

Further information pertaining to this program may be obtained by contacting the Director of the Work-Study Program at the College.

Placement Service

The college maintains a placement service and is constantly informed as to available positions in the business district. Graduates are assisted in finding full-time jobs and students are assisted in finding part-time employment.

Write to the office of the Director of Student Activities for infor-

mation.

Registration

Former students should request permits to enroll at least one week

in advance of registration.

Permits to enroll will be available to new students and freshmen during the Counseling Test session or those students may obtain the permits in the office of the Registrar.

INSTRUCTIONS FOR NEW STUDENTS

Because it is sometimes difficult for the beginning student to know just what is expected of him, the following information has been compiled and is printed here for convenience.

A student entering Missouri Southern College as a freshman in the fall of 1965 is expected to:

- 1. Furnish a transcript of his high school work. The prospective student should request the Principal of his high school to send the transcript to the Registrar prior to September 1, 1965.
- 2. Attend the counseling test—session Tuesday, September 7, 1965; 9:00 A. M. 1:00 P. M.

(A student who has participated in the Missouri College Cooperative Program of Testing in the current year, will be excused from the above testing session.)

- 3. Register on Registration Day, September 9 or 10, 1965, and pay tuition and fees.
- 4. Attend the Orientation Session for all new students at 9:00 a.m., Saturday, September 11, 1965, in the College Auditorium.



Main Corridor, Second Floor, Bulletin Boards and Trophy Cases

GENERAL REGULATIONS

ADMISSION

Admission by Certificate

The College regularly admits without examination graduates of fully accredited high schools of Missouri. A student entering from out of state must be in the upper two-thirds of his high school class. At least fifteen units of high school credits must be presented including

English 3 units

Social Science 3 units

Mathematics 1 unit

Science (with laboratory) 1 unit

The remainder of the fifteen units may be selected from any courses accepted by an accredited high school for its diploma, with the exception of physical education and military science. It is highly recommended that the above required units should be increased to English, 4 units; social science, 3 units, mathematics, 2 units, and science, (with laboratory), 2 units.

Non-graduates from accredited high schools who present 15 acceptable units will be admitted by certificate if they are recommended for college admission by the high school principal or superintendent.

All candidates are expected to meet the specific admission requirements, if any, of the curriculum they desire to enter. See Section 2.

A prospective student should request the principal of his high school to send a transcript of his work to the Registrar's Office. The diploma will not be accepted as a credential.

Veterans

A man or woman whose formal education has been interrupted by military service and who has not attended high school, or has not completed a high school program, may qualify for admission by taking the General Educational Development tests prepared by the Armed Forces Institute, or by taking comparable forms of the same tests after separation from service.

Students Transferring from Other Colleges and Universities

A student who has been regularly admitted to another college or university of recognized standing may be admitted to Missouri Southern College upon presentation of a "Statement of Honorable Dismissal." An official transcript of all college work should be filed with the Registrar prior to enrollment.

Special Students

Persons over twenty-one years of age who have not completed requirements for admission and who present evidence of special preparation and attainment may be admitted to the College as "Special Students." These students may become candidates for degrees when regular admission has been established. "Special Students" are required to take

all examinations in their courses, and are subject to the same scholastic requirements as regular students.

Auditors

With the consent of the Registrar and the instructors concerned, students may be admitted to any course as Auditors. Auditors must be registered and must pay fees, but are not required to take examinations. They receive no college credit.

ADVANCED STANDING EXAMINATIONS

A student whose educational experiences appear to have given him proficiency in a course (required in his curriculum) equivalent to that ordinarily attained by those taking the course in regular class, may be granted permission to take an advanced-standing examination in the course. The examination shall be a comprehensive one, designed to cover the subject more fully, and shall be broader and more complete than a regular final examination.

In addition to having the above qualifications, a student, in order to qualify for an advanced examination, must

- (a) be enrolled in this college at the time of the examination;
- (b) be working toward a degree from this college;
- (c) lack more than one semester's work toward meeting the requirements for graduation;
- (d) not have credit in a more advanced course in the same field;
- (e) have the approval of the dean and the instructor of the course;
- (f) not have taken an examination over the course within the preceding six months;
- (g) pay a fee of five dollars for each examination.

After the student takes the examination, the instructor will turn in a grade for the course, provided the grade is "C" or better.

REQUIREMENTS FOR GRADUATION

Associate degrees are conferred at the close of the second semester of each school year: Associate in Arts; Associate in Business; Associate in Science; Associate in Technology.

General education requirements for all students who graduate from Missouri Southern College are English and speech courses, eight hours, American History or government courses, five hours and physical education, two hours. Students who are enrolled in General Business and in the Technology Curriculums may substitute Business Communications for English 2, and technology students may omit speech from their curriculum. A total of 64 hours and 128 grade points is required for all associate degrees and may include as many as four hours of physical education.

In order to receive the Associate Degree, the candidate must have been regularly admitted to the college and must have met all admission requirements for the curriculum that he is following. (Any student unable to participate in the physical education program must obtain special permission from the Dean to be excused. He must substitute academic credits for the physical education credits from which he is excused.)

3. He must have satisfied the course requirements for one of the degree plans in Section 2 or Section 4.

IV. He must have completed at least 12 semester hours of consecutive courses at Missouri Southern College, including at least three semester hours his final semester.

GRADES AND GRADE REPORTS

The following marks are used in grading: A, B, C, D, F, W, and They are defined as follows:

A-Excellent

B-Superior

C-Medium, or Satisfactory D-Below average; Passing

F—Failing; No credit *W—Withdrawal

WF-Withdrawal failing

*Any student who withdraws from a class before the completion of the first half of the semester will receive a "W." If he withdraws after the first half of the semester, he may be given a "W" or "WF" at the discretion of the instructor.

An instructor may give an incomplete grade to a student who in the instructor's judgment is unable to complete the work of the course at the time the grade is issued. The work must be completed within two weeks following the close of the same semester, or the grade becomes an "F."

Grade reports are mailed to the parents or guardians of students under twenty-one years old the week following mid-semester if the student is making below "C" in a course. Complete grade reports are mailed at the end of each semester.

Grade points are given according to the grade and the number of semester hours earned: One semester hour with a grade of "A" entitles the student to four grade points; one semester hour with a grade of "B." three grade points; one semester hour with a grade of "C," two grade points and one semester hour with a grade of "D," one grade point. An "F" grade does not earn grade points. A student should maintain a 2.0 grade point average for all work attempted in order to transfer to four year colleges and universities.

REPETITION OF COURSES

A "D" or an "F" course may be repeated only once. The grade earned in the first attempt will be cancelled and the second grade will be used in computing grade-point averages.

A student may not repeat by correspondence or extension study a

course he has failed in resident study.

HONORS AT GRADUATION

Students who complete all requirements for the associate degree with a grade-point average of 3.7, or above, for all hours attempted will receive First Honors; students who complete the requirements with a grade-point average of 3.4 to 3.6, will receive Second Honors; and students who complete the requirements with a grade-point average of 3.0 to 3.3, will receive Third Honors.

QUANTITY AND QUALITY OF WORK REQUIRED

The normal college load is fifteen hours of work in addition to physical education. A student may not register for more than sixteen nor less than twelve semester hours in any semester without the approval of the Dean. An exception to this regulation is made in the case of engineering students who are permitted to carry seventeen or eighteen hours per semester, and music students who are permitted to carry more than sixteen hours per semester.

The Honor Roll is published at the end of each semester. To be eligible for the Honor Roll a student must carry at least twelve semester hours of work, exclusive of physical education, and must average at least 3.0 grade points on all work attempted.

A student who is not making passing grades in at least 60 per cent of work carried is advised to withdraw at the end of the semester. He may continue on probation for one semester. If he fails to improve his work, he may be suspended for one semester.

CLASS ATTENDANCE

Regular attendance in class and laboratory sessions is an obligation assumed by every student at the time he registers. The college does not maintain a system of excused absences and an accumulation of absences will adversely affect the semester grade. A student absent without explanation for two consecutive weeks is dropped from the official rolls and his reinstatement will be subject to the action of the Dean.

Approval to withdraw from a course must be obtained from the Dean. Unauthorized withdrawal from a course or absence from the final examination will result in the failing grade of "WF" for the course.

WITHDRAWALS

A student wishing to withdraw from the College for the remainder of a semester must secure an honorable dismissal through the Dean's office, after he has first returned all books and other equipment charged to him, paid all fines and fees, and cleared himself in every respect with the College office.

A student who fails to comply with the above procedure will not be recommended to any other college or university, nor will be be eligible to receive refunds of such fees or deposits as are by the rules returnable.

CHANGES IN PROGRAMS

During the first week of each semester a student may petition for a change in program in the office of the Dean. (See Fees for Change in Program).

All changes in schedules must be recorded in the office and any irregularity in procedure may result in an "F" on the record of the student.

CLASSIFICATION OF STUDENTS

A student is classified as a freshman until he completes at least twenty-nine hours.

EXPENSES AND PAYMENTS

All statements as to fees contained in this catalog are by way of announcement only for the school year covered by the catalog. The College reserves the right to change fees at any time without notice being given in advance.

All fees must be paid in full at the time of registration at the opening of each semester or term as a condition of admission to classes. Registration is not complete until all fees are paid.

FULL FEES

A student who enrolls for eight or more semester hours will pay the following fees:

TUITION—Tuition is free to all students who are residents of the Missouri Southern College district. (A student may be asked to present evidence that he is a resident).

Students who are non-residents of the Missouri Southern College district are required to pay a tuition fee of eighty dollars (\$80) per semester. Status of residence is determined by the place of residence of the student's parents or legal guardians.

MATRICULATION—A five dollar (\$5) matriculation fee is charged all students and is payable at the time they enroll in the College for the first time. This fee will not be subject to refund at any time.

REGISTRATION—The registration fee is forty dollars (\$40) per semester.

ACTIVITY—The activity fee is ten dollars (\$10) per semester.

TEXTBOOK RENTAL AND DEPOSIT—All textbooks are owned by the College and are rented to the student. Rental is ten dollars (\$10) per semester and deposit is fifteen dollars (\$15) per semester. The fifteen dollar deposit will be refunded to the student when he returns all books and equipment belonging to College.

PART FEES

A student who enrolls for less than eight semester hours will pay the following fees:

MATRICULATION—A five dollar (\$5) matriculation fee is charged all students and is payable at the time they enroll in the College for the first time. This fee will not be subject to refund at any time.

ACTIVITY FEE—The Activity Fee is one (\$1) dollar per semester hour for one through seven hours.

REGISTRATION—The Registration fee is five (\$5) dollars per semester hour for one through seven hours.

TUITION—Tuition is free to all students who are residents of the College district.

Students who are non-residents of the College district are required to pay a tuition fee of six (\$6) dollars per semester hour for one through seven hours.

TEXTBOOK RENTAL AND DEPOSIT--All textbooks are owned by the College and are rented to the student. Rental is two dollars per course and the Deposit is four dollars per course. The four-dollar Deposit will be refunded to the student when he returns all books and equipment belonging to the College.

OTHER FEES

The following fees are applicable to full-time and part-time students:

APPLIED MUSIC—For one 30-minute lesson per week in applied music, the usual fee is \$32 per semester. It will be paid to the instructor. Receipt for the fee signed by the instructor must be in the hands of the student before registration is completed.

LABORATORY FEE—A fee of two dollars (\$2) is charged for all laboratory courses. In cases of excessive loss or breakage additional fees may be charged at the end of the semester, but no refund will be made.

FEE FOR LATE REGISTRATION—Every student who enrolls after the registration day of each semester must pay a fee of one dollar (\$1) for late registration, in addition to the other fees.

FEE FOR CHANGE OF PROGRAM

With the exception of errors made by the College staff, a fee of one dollar (\$1) must be paid for each petition to change a course after the period allowed for changing programs.

All changes in programs must be approved in advance by the Dean.

TRANSCRIPT FEE

Each student is entitled to two official transcripts free of charge. For each additional transcript, a fee of \$1 is charged.

REFUND OF FEES

Students leaving school or dropping courses for which they have paid fees, prior to the fifth week of the semester involved, will receive a refund of the fees paid in accordance with the following schedule:

Time of Withdrawal	Amount of Fee to be Refunded
Within the first and second	weeks80 per cent
Within the third and fourth	weeks50 per cent
After the fourth week	No Refund

STUDENT ACTIVITIES

Opportunity for participating in a wide variety of out-of-class activities is provided at Missouri Southern College. Students are encouraged to investigate the wide choice of activities and are expected to participate in one or more of these aspects of the college program.

The Student Senate

The Student Senate has been vested with limited legislative powers in order that it may implement and promote the objectives of the Student Body Constitution. It is concerned with making arrangements for a great variety of extracurricular activities—which serve both the school and the community. As the student body has grown, so have the responsibilities of the Student Senate grown to include such diverse preparations as those required for dances, parades, assemblies, a student directory, charity fund-raising campaigns, etc.

The Student Senate is composed of the Student Body executive officers, who are elected late in each spring term, and the Student Senators, who are elected from the classes by proportional representation early in the fall term. Members of the Student Senate are required to maintain a high level of scholarship as well as to carry out their duties of offices.

The Director of Student Activities of the College and faculty members appointed by the Dean serve as advisors to the Senate. The Senate meets in regular sessions once every week during the school year.

THE STUDENT CABINET—The Student Cabinet, composed of representatives from each authorized student organization, acts in advisory capacity to the Student Body President during the regular school year. In addition to its advisory role, the Student Cabinet functions as a service committee from the end of the spring term until the Senate is organized in the following fall. During the summer months the Cabinet assumes the powers and duties of the Student Senate, thus it is often referred to as "The Summer Cabinet." At the beginning of each new school year the Cabinet helps with the orientation program for new students, and before the body retires to its advisory role, it is responsible for conducting the elections of Class Officers and of Student Senators.

THE COLLEGIATE COUNCIL FOR THE UNITED NATIONS—The Collegiate Council for the United Nations at the College is an affiliate member of the national student organization, which is devoted to building informed student support for the United Nations. The national organization is an accredited Non-Governmental Organization with official NGO status at the United Nations and the United States Mission to the UN. In addition to making known the Charter and the work of the United Nations, it encourages students to reach conclusions about the United States policies which both promote our national interest and make American leadership in the United Nations most effective, and it aims to develop a student public which takes action upon its beliefs.

The Missouri Southern College affiliate to the C.C.U.N. was organized by the Student Senate of 1961-1962, as a Committee of the Senate. At the beginning of the Fall Semester, 1963, a separate sponsor was assigned and the Collegiate Council for the United Nations became a separate college organization with membership continuing to be open to the student body. Its activities, which are in keeping with the purposes of the national organization, have included preparations for the commemoration of United Nations Day in the community and sponsoring a student delegation's participation in the Midwest Model United Nations.

PHI THETA KAPPA

Phi Theta Kappa (Eta Chi Chapter) is a national scholastic fraternity that has as its purpose the promotion of scholarship, the development of character, and cultivation of fellowship among students of both sexes in the junior colleges of the United States. To be eligible for election to membership, a student must: (1) be of good moral character and possess recognized qualities of citizenship as judged by the Administrative Council of the College; (2) have a grade-point average of 3.5 at the end of his first semester, or a cumulative average of 3.4 at the end of his second semester, or a cumulative average of 3.3 at the end of his fourth semester; (3) also be carrying an accumulative average of 15 hours per week, 12 of which must be accreditable in Arts and Science, and be in the upper scholastic 10 percent of the regularly-enrolled student body. To maintain active membership, a student must at the end of any given semester have a grade-point average of not less than 3.0.

Student N.E.A.

The Student National Education Association is the professional association for college students who are preparing to teach. Its members are members of duly chartered local chapters. Local chapters and state student education associations are integral parts of the Student N.E.A. A member of the Student N. E. A. is a student member of the Missouri State Teachers Association and the National Education Association, with all the rights, privileges, and responsibilities of associate membership in these professional organizations. Members receive the N.E.A. Journal. The Student N.E.A. calendar includes many and varied academic and so-ial activities.

Y. W. C. A.

The Young Women's Christian Association, organized in 1938, endeavors to be of service to the women students of the College. It is a comradeship in which every woman of the College may share and offers an opportunity for development and training in leadership, religion and social service. The activities of the Y.W.C.A. are varied enough for each member to do the type of work that appeals most to her interest. The group is affiliated with the National Student Christian Association and the National Student Y.W.C.A. Each year it contributes to and initiates the all-student World University Service Drive for the relief of students in other countries.

A group of delegates attend the state fall and spring conferences of the Y.W.C.A. and the regional Conference at Estes Park, Colorado, during the summer.

Engineer's Club

The Engineer's Club is organized for the purpose of fostering a professional spirit and promoting the interests and activities of its members. To accomplish this purpose the Club sponsors technical projects, professional speakers, field trips to industrial plants, etc.

To be eligible for membership a student must be enrolled in engineering, physical science, or related fields.

THE "MATH" CLUB

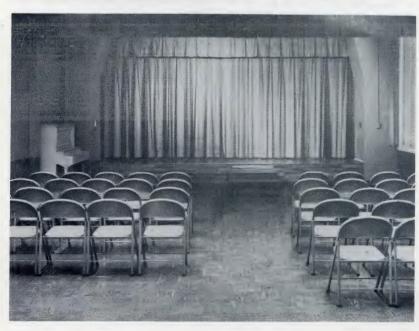
The "Math" Club is composed of students who are interested in mathematics. Its purpose is to increase students' knowledge in areas of mathematics not covered in regular courses and to interest students in individual study.

THE MODERN LANGUAGE CLUB

The Modern Language Club is open to students of French, Spanish and German. The purpose of this group is to become better acquainted with the languages learned and with the people and countries where these languages are spoken. Some of the contributions to literature, art and music are studied including the ones which are popular today. It has a yearly project in which the Club renders service either here or abroad.

THE COLLEGE PLAYERS

The College Players is organized for the purpose of promoting and stimulating interest in dramatic productions. With this purpose firmly in mind, the members produce four major productions during the school year and contribute materially to college assemblies and other school functions. The organization provides additional opportunities for players outside the college in programs requested by civic, church and business and professional groups. Membership includes not only those who may have met special requirements and shown ability in acting, but students interested in any field of dramatic work, make-up, costume, set design, publicity, management, properties, sound, and stage direction.



Circle K

The Circle K Club was organized in 1955 by the Kiwanis Club of Joplin. The Club is a service organization formed to be of service to both the College and to the community.

Students belonging to this organization are leaders in campus life and are accepted because of their ability and willingness to serve.

Music Activities, see page 65

Young Democrats' Club

The Young Democrats' Club of the College is a student organization whose purpose is to encourage student interest and responsibility in politics. Its programs are designed to inform and to give practical experience in party politics. Any student officially enrolled at Missouri Southern College is eligible for membership.

Young Republicans' Club

The Young Republicans' Club of the College advocates an understanding of party politics as well as an awareness of the responsibilities of the citizen to his country. Any student officially enrolled at Missouri Southern College is eligible for membership.

Athletics

Missouri Southern College is a member of the Interstate Conference and participates in the following inter-collegiate activities: Basketball, Football, Track, Golf and Tennis.

It is the policy of the College to conduct its inter-collegiate athletic program in such a manner so as to create respect for good sports-manship and an appreciation of sound moral values. At no time will the inter-collegiate athletic program run counter to the main functions of the college which include, in addition to its academic goals, the education of its students in sound practices of democratic citizenship, community responsibility, sound religious and moral values, and an understanding of the rights of others.

The college attempts to build its inter-collegiate program around two major concepts:

- 1. The athletic program is an integral part of the educational program of the institution.
- 2. At no time is the inter-collegiate athletic program permitted to dominate the educational philosophy so as to bring discredit to the purpose for which the institution was founded, namely, the education of all students.

To be eligible for participation in contests for the College, students must be doing passing work in at least ten hours, exclusive of physical education.

With the exception of first-semester freshmen, to be eligible for participation in athletics, students must have passed in at least ten hours in the preceding semester in school.

The Crossroads

The Crossroads, the school annual, has been published each year since the College was opened. The annual is the product of a student staff with faculty sponsors. It is an honor to be chosen Editor or Co-Editor, or even a member of the Crossroads staff. Every student is urged to have his picture made for the annual, and each organization should respond with group pictures and other pictures of interest.

The Crossroads Ball is the social event of the year, climaxed by the crowning of the Crossroads Queen by the student body.

The Chart.

The Chart staff publishes 12 issues of the College newspaper. Throughout the year the editorial division uses the work of many reporters, feature writers, cartoonists, photographers, and typists. The business staff offers experience in advertising, salesmanship, and secretarial practices. Students interested in an editorial position should register for the Survey of Journalism course. Those wishing to free-lance should attend weekly staff meetings.

The Student Handbook

The Student Handbook, a compilation of information about the College, is sponsored by the Student Cabinet of the Student Senate.

The Student Directory

The Student Directory is compiled by the Student Senate and is published annually.

SECTION 2

This section contains suggested programs of study to guide the students in the selection of courses. The programs have been carefully planned and students should follow them as closely as possible. All electives should be chosen in conference with an instructor.

Schedules of courses offered during the 1965-1966 session will be

published as separate bulletins.

AGRICULTURE CURRICULUM

Degree: Associate in Arts

1.	Courses required for the Agriculture Curriculum:
	English 1 or 7a and 2 6 semester hours
	Speech 2 or 3 semester hours
	Chemistry 5 semester hours
	General Botany or Zoology 5 semester hours
	General Economics 5 semester hours
	Government or American History 5 semester hours
	Algebra 3 semester hours
	Exposition 3 semester hours
	Accounting
	General Psychology 3 semester hours
	General Sociology 3 semester hours
	Electives
	Physical Education 2 semester hours

2. Suggested order of study:

FRESHMAN YEAR

First Semester English 1 3 hours Chemistry 5 hours Psychology 3 hours American History 5 hours Physical Education 1 hour	Second Semester English 2
17	17

SOPHOMORE YEAR

First Semester	Second Semester
Exposition .3 hours Zoology .5 hours Accounting 1 .3 hours U. S. Government .3 hours Elective .2 hours	Botany .5 hours Economics .5 hours State Government .2 hours Electives .4 hours

16

16

NURSING CURRICULUM

Degree: Associate in Arts

1. Courses required for the Nursing Curriculum:

English 1 or 7a and 2 6	semester	hours
Speech	semester	hours
English Literature 6	semester	hours
Chemistry 8	semester	hours
Z oology 5	semester	hours
General Sociology	semester	hours
General Psychology 3	semester	hours
U. S. and State Government		
or American History 5	semester	hours
Psychology of Personal Adjustment 3	semester	hours
Electives in Arts and Science Courses20	semester	hours
Physical Education 2	semester	hours

2. Suggested order of study:

FRESHMAN YEAR

First Semester	Second Semester
English 1' 3 hours Chemistry 1 5 hours General Psychology 3 hours American History or Electives 5 hours Physical Education 1 hour	English 2 3 hours Chemistry 2 3 hours U. S. and State Government or Electives 5 hours Speech 2 or 3 hours Electives 2 hours Physical Education 1 hour
17	17

SOPHOMORE YEAR

First Semester	Second Semester
Zoology	Anatomy and Physiology .5 hours English Literature .3 hours Psych. of Pers. Adjust. 3 hours Electives .5 hours
Management of the Control of the Con	

ARTS AND SCIENCE CURRICULUM

Degree: Associate in Arts

1.	Courses required for the Arts and Science Curriculum:
	English 1 or 7a and 2 6 semester hours
	Speech
	Literature 3 semester hours
	Mathematics 3 semester hours
	Fine Arts Appreciation or
	Foreign Language 5 semester hours
	Biological Science 5 semester hours
	Fundamentals of Physical Science,
	Chemistry or Physics 5 semester hours
	American History or Government 5 semester hours
	Economics 5 semester hours
	General Psychology
	Electives
	Physical Education

2. Suggested order of study:

FRESHMAN YEAR

First Semester	Second Semester
English 1 3 hours Foreign Language or Fine Arts Appreciation 5 hours American History or Government 5 hours Speech 3 or 2 hours Physical Education 1 hour	English 2

SOPHOMORE YEAR

First Semester	Second Semester
Foreign Language or Fine Arts Appreciation 5 hours Science	Economics5 hoursScience5 hoursLiterature3 hoursElective4 hour
177	17

BUSINESS ADMINISTRATION CURRICULUM

Degree: Associate in Arts

1. Courses required in the Business Administration Curriculum:

English 1 or 7a and 2 6 semester hour	rs
Speech 2 or 3 semester hour	cs
Literature 3 semester hour	
Algebra 3 semester hour	rs
Economics 5 semester hour	rs
Accounting 6 semester hour	rs
American History 5 semester hour	rs
United States and State Government 5 semester hour	rs
Fine Arts Appreciation or Foreign Language 5 semester hour	rs
Biological Science 5 semester hour	rs
Business Organization and Management 3 semester hour	rs
Fundamentals of Physical Science,	
Chemistry or Physics 5 semester hour	rs
Psychology 3 semester hour	
Electives 5 semester hour	
Physical Education	

2. Sugg

ested order of study:	
FRESHMA	AN YEAR
First Semester	Second Semester
English 1 3 hours a cecounting 1 3 hours line Arts Appreciation, Foreign Language, or American History 5 hours cience 5 hours Physical Education 1 hour	English 2
17	17
SOPHOMO	PRE YEAR
First Semester	Second Semester
Accounting 12	Accounting 23
16 or 17	16

GENERAL BUSINESS CURRICULUM

Degree: Associate in Business

1. Courses required for the General Business Curriculum	1:	
English 1 or 7a	semester	hours
Speech 3 or 2		
Business Communications or English 2 3		
Shorthand (Must include courses 13 and 33) 6	semester	hours
Typewriting (Must include courses 15 and 16)	semester	hours
*Accounting	semester	hours
Business Organization and Management 3	semester	hours
Office Machines		
Secretarial Procedures	semester	hours
Business Law	semester	hours
Business Arithmetic	semester	hours
U. S. Government and State Government		
or American History	semester	hours
**Flectives 16 or (semester	hours
Physical Education	semester	hours

^{*}A student may specialize in Shorthand or Accounting, or both, but in any case will take one course in Accounting.

2. Suggested order of study:

First Semester

FRESHMAN YEAR

Second Semester

English	Business Communications 3 hours Shorthand 4 or 33 3 hours Accounting 11 3 hours Typewriting (6 or 16) 3 hours Office Machines 20 3 hours Physical Education 1 hour		
16	16		
SOPHOMORE YEAR			
First Semester	Second Semester		
Shorthand 13	U. S. Government 3 hours Speech 3 or 2 hours Typewriting 16 3 hours Accounting 23 or Shorthand 33 3 hours Business Law 3 hours Secretarial Procedures 3 hours		
17	17		

^{**}Electives should include General Psychology, Literature, Geography, Economics, Science, Introduction to Business

GENERAL BUSINESS CURRICULUM (One Year)

Degree: Certificate

1. Courses required for the one-year General Business Curriculum:

English 1	3	semester	hours
Speech 3 or	2	semester	hours
Business Communications or English 2	3	semester	hours
Shorthand (Must be courses 13 and 33)	6	semester	hours
Typewriting (Must be courses 15 and 16)	6	semester	hours
Accounting	3	semester	hours
Introduction to Business	3	semester	hours
Office Machines	3	semester	hours
*Electives	3	semester	hours
Physical Education	2	semester	hours

^{*}Electives should be chosen from: General Psychology, Literature, Business Arithmetic.

2. Suggested order of study:

First Semester	
English 13	hours
Shorthand 133	
Typewriting 15 3	hours
Accounting 1	
or Elective3	hours
Introduction	
to Business3	hours
Physical Education1	hour

Second Semester

Business	
Communications3	hours
Speech	hours
Shorthand 333	hours
Typewriting 163	
Accounting 11 3	
Office Machines 203	
Physical Education1	hour

DENTAL CURRICULUM

Degree: Associate in Arts

1. Courses required for the Dental Curriculum:

English 1 or 7a and 2 6	semester	hours
Speech 3 or 2	semester	hours
Chemistry 8	semester	hours
Zoology 5	semester	hours
Anatomy and Physiology 5	semester	hours
Physics 8	semester	hours
American History or Government 5	semester	hours
Electives	semester	hours
Physical Education	semester	hours

2. Suggested order of study:

FRESHMAN YEAR

First Semester	Second Semester
Chemistry 1 .5 hours Zoology .5 hours Algebra & Trigonometry .5 hours Physical Education .1 hour	Chemistry 2 3 hours Anatomy & Physiology 5 hours Qualitative Analysis 3 hours American History 5 hours Physical Education 1 hour
16	17

First Semester	Second Semester
English 1 3 hours Physics 1 5 hours Government 3 hours Psychology 3 hours Electives 2 hours	English 2 .3 hours Physics 2 .3 hours Economics .5 hours Literature .3 hours Speech .2 or 3 hours
16	16 or 17

ENGINEERING CURRICULUM

Degree: Associate in Science

1.	Courses required f	or the	Engineering Curriculum:*	
	English 1 or 7a	and 2.		Se

semester hours Speech 3 or 2 semester hours Literature 3 or 4 semester hours

American History or U.S. and

Chemistry 1 and 2 8 semester hours Engineering Drawing 1 2 semester hours ***Electives 8 semester hours

*The admission requirements for this curriculum must include four units in mathematics and one unit in science with laboratory.

**Not required of Chemical Engineers.

***Electives should be selected in accord with the requirements of the curriculum of the College to which the student will transfer: Introduction to Modern Physics; Plane Surveying; Engineering Drawing 3; Qualitative Analysis; Quantitative Analysis; General Economics; Slide Rule; Statics; Psychology; Accounting; Differential Equations; Fundamentals of Electrical Engineering

2. Suggested order of study:

FRESHMAN YEAR

First Semester	Second Semester
English 1 3 hours	English 2 3 hours
Mathematics 5 or 14 5 hours	Mathematics 14 or 155 hours
Engineering Drawing 2 hours	Descriptive Geometry or
Slide Rule 1 hour	State Government2 hours
Chemistry 1 hours	Chemistry 2 3 hours
Physical Education1 hour	Physics 3 or Qualitative
,	Analysis or U. S.
	Government5 or 3 hours
	Physical Education1 hour

17

19 or 17

First Semester	
Mathematics 15 or 165	hours
Physics 3 or 45	hours
U. S. Government3	hours
Quantitative Analysis or	
English Literature and	
State Government 5	hours

Second Semester
Mathematics 16 or 17,
5 or 3 hours
State Government and
English Literature or
Statics 5 hours
Speech
Fund. of Elec. Engr3 hours
Modern Physics (3 hrs.) or
Physics 4 3 or 5 hours

GENERAL CULTURE CURRICULUM

Degree: Associate in Arts

Associate in Science

1. Courses required for the General Culture Curriculum:

English 1 or 7a and 2 6	semester	hours
Speech 2 or 3	$\mathbf{semester}$	hours
United States and State Government		
or American History 5	semester	hours
or remotive transfer to the second transfer transfer to the second transfer tran	Schrobect	IIO CII
Electives		

2. The General Culture Curriculum is planned to give the student maximum flexibility in planning his junior college program.

Sixty per cent of the total hours presented for graduation must be from work acceptable in the Arts and Science curriculum.



A fully equipped library is at the disposal of the student.

JOURNALISM CURRICULUM

Includes preparation for Editorial, Advertising, Publishing, and non-technical Radio Curriculums,

Degree: Associate in Arts

1. Courses required for the Journalism Curriculum:*		
English 1 or 7a and 2 6	semester	hours
Speech 3 or 2		
Foreign Lauguage (in 1 Language)	semester	hours
Biological Science or Physical Science 5	semester	hours
Economics 5	semester	hours
Survey of Journalism 1	semester	hour
U. S. Government 3	semester	hours
English Literature 6	semester	hours
American History 5		
**Electives in Arts and Science Courses	semester	hours
Physical Education 2		
*One unit of Transmitting should be included in the	himb acho	.1

*One unit of Typewriting should be included in the high school credits.

**Electives should be chosen from Sociology, General Psychology, Mathematics, Exposition, Accounting.

2. Suggested order of study:

FRESHMAN YEAR

First Semester	Second Semester
English 1 3 hours	English 2 3 hours
Foreign Language	Foreign Language 5 hours
or Electives 5 hours	Science or Electives5 hours
Science or Electives 5 hours	Survey of Journalism and
Survey of Journalism 1 hour	Electives hours
Electives	Physical Education1 hour
Physical Education1 hour	a agreement and a second
***************	Qualitative registrate of the state of the s
17	17

SOPHOMORE YEAR

First Semester Foreign Language or Electives	Second Semester Foreign Language and/or Electives
Micro-Confidence Control Contr	

NOTE: A student following this curriculum is expected to work on the school newspaper, THE CHART.

LAW CURRICULUM

Degree: Associate in Arts

1. Courses required for the Law Curriculum:

English 1 or 7a and 2 Public Speaking Science Mathematics American History United States and State Government Accounting Psychology or Sociology Foreign Language 1	35555330	semester hours semester hours semester hours semester hours semester hours semester hours semester hours
Foreign Language	$\frac{0}{7}$	semester hours

2. Suggested order of study:

FRESHMAN YEAR

First Semester	Second Semester
English 1 3 hours Poreign Language or American History 5 hours Government 3 hours Science 5 hours Physical Education 1 hour	English 2 3 hours Foreign Language 5 hours Algebra 3 or Algebra and Trigonometry . 5 hours Psychology or Sociology 3 hours Physical Education 1 hour
17	17

First Semester	Second Semester
Exposition 3 hours Accounting 1 3 hours Foreign Language or American History 5 hours Modern European History or English Literature 3 hours Government 2 hours	Economics

MEDICAL CURRICULUM

Degree: Associate in Arts

1. Courses required for the Medical Curriculum:		
English 1 or 7a and 2 6	semester	hours
Speech 3 or 2	semester	hours
*Foreign Language (in 1 Language)	semester	hours
Chemistry 8	semester	hours
Qualitative Analysis 3	semester	hours
Zoology 5	semester	hours
Anatomy and Physiology 5	semester	hours
Physics 8	semester	hours
American History or Government 5	semester	hours
Electives	semester	hours
Physical Education 2	semester	hours

^{*}Not required if the particular school our candidate plans to attend does not require a foreign language.

2. Suggested order of study:

FRESHMAN YEAR

First Semester	Second Semester
Chemistry 1 5 hours Zoology 5 hours Algebra and Trigonometry 5 hours Physical Education 1 hour	Chemistry 2 3 hours Qualitative Analysis . 3 hours Anatomy & Physiology 5 hours Foreign Language or American History 5 hours Physical Education 1 hour
16	17
SOPHOM	ORE YEAR
First Semester	Second Semester
First Semester English 1	English 2

Second Semester

MEDICAL TECHNOLOGIST CURRICULUM

Degree: Associate in Science

1.	Courses	required	for the	Medical	Technologist	Curriculum:
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English 1 or 7a and 2	6	$\mathbf{semester}$	hours
Speech	2	semester	hours
Chemistry	8	semester	hours
Quantitative Analysis	5	semester	hours
Qualitative Analysis	3	semester	hours
Zoology	5	semester	hours
Botany	5	$\mathbf{semester}$	hours
American History or U. S. and State Government	5	semester	hours
Anatomy and Physiology	5	semester	hours
Electives	8	semester	hours
Physical Education	2	semester	hours
(The student should have satisfactorily completed	1 2	course in	type-

(The student should have satisfactorily completed a course in typewriting in high school)

2. Suggested order of study:

FRESHMAN YEAR

First Semester English 1 .	hours hours hours	Second Semester English 2	5 5
17		17	

First Semester	Second Semester
Quantitative Analysis 5 hours	Anatomy & Psychology 5 hours
Zoology 5 hours	Physics 2 3 hours
Physics 5 hours	Art Appreciation3 hours
	American History or
	Government5 hours
	•
15	16

MUSIC CURRICULUM

Degree: Associate in Arts

1. Courses required in the Music Curriculum:

	English 1 or 7a and 2	semester	hours
	Speech 2 or 3	semester	hours
	English Literature	semester	hours
	Music Theory16		
	Music Literature 6	semester	hours
	American History or U.S. and		
	State Government	semester	hours
	Vocal Techniques 2	semester	hours
	Keyboard Techniques 4	semester	hours
	Applied Music 5 (Major Area) 4	semester	hours
	Applied Music 6 (Minor Area)	semester	hours
	Modern Mathematics 3	semester	hours
	Fundamentals of Physical Science 5	semester	hours
4	*Electives 4		
	Physical Education 2	semester	hours

^{*}Electives should be chosen from Psychology and Foreign Language.

2. General Information

APPLIED MUSIC

A. Private instruction may be arranged for piano, voice and most orchestral instruments. Two thirty-minute lessons (or one sixty-minute lesson) is required for a major area of performance, and one thirty-minute lesson is required for a minor area of performance. Wind, string and voice majors are advised to minor in piano.

Practice rooms are available at no cost to the student, but are reserved for students under the applied music program.

B. In the Vocal Music Department, Choir and Vocal Ensemble are open to all students with the consent of the director. One hour of elective credit per semester is allowed for each activity.

In the Instrumental Music Department, Concert Band and Stage Band are open to all students with the consent of the director. One hour of elective credit per semester is allowed for each activity.

Music majors are expected to participate in at least one vocal and instrumental ensemble. A maximum of eight hours is allowed for music activities during the four semesters.

- C. RECITAL REQUIREMENTS: All music majors are expected to attend student and faculty recitals. Music majors are to appear on a minimum of two recitals each semester and to give a graduation recital during the final semester of approximately forty-five minutes length.
- D. SCHOLARSHIPS: A limited number of scholarships are available to music majors. The scholarships are granted on the basis of musicianship, scholarship, and need, and are renewable. Application may be

made to the Scholarship Committee, Missouri Southern College, and will be subject to the approval of the music department of the College.

2. Suggested order of study:

FRESHMAN YEAR

First Semester	Second Semester
English 1	English 2 3 hours Elem. Music Theory .5 hours Fund. of Physical Science 5 hours Vocal Techniques 1 hour Music 5 (Major) 1 hour Music 6 (Minor) ½ hour Physical Education 1 hour
171/2	161/2

First Semester	Second Semester
English Literature 3 hours Adv. Music Theory 3 hours Music Literature 3 hours Speech 3 or 2 hours Keyboard Techniques .1 hour Music 5 (Major) 1 hour Music 6 (Minor) 1/2 hour Elective 5 hours	English Literature 3 hours Adv. Music Theory 3 hours Music Literature 3 hours American History 5 hours Keyboard Techniques 1 hour Music 5 (Major) 1 hour Music 6 (Minor) 1/2 hour Recital Required
${18\frac{1}{2}}$	

OPTOMETRY CURRICULUM

Degree: Associate in Arts

1.	Courses	required	for	the	Optomet ry	Curriculum:
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English 1 or 7a and 2 3	semester	hours
Speech 3 or 2	semester	hours
English Literature 3	semester	hours
Algebra and Trigonometry 5	semester	hours
U. S. and State Government		
or American History 5	semester	hours
Zoology 5	semester	hours
Chemistry 8	semester	hours
Physics 8	semester	hours
General Psychology 3	semester	hours
Electives		
Physical Education 2	semester	hours

Suggested Electives: Child Physchology; English Literature; European History; U. S. Government; Economics.

2. Suggested order of study:

FRESHMAN YEAR

First Semester	Second Semester	
English 1 3 h Algebra & Trigonometry 5 h Chemistry 5 h General Psychology 3 h Physical Education 1 h	ours Chemistry 3 ours American History 5 ours Electives 5	hours hours hours
17	17	

First Semester	Second Semester
English Literature 3 hours Physics 1 5 hours Zoology 5 hours Speech 3 or 2 hours Electives 2 hours	U. S. and State Government 5 hours Sociology 3 hours Physics 3 hours Electives 5 hours
18 or 17	16

PHARMACY CURRICULUM

Degree: Associate in Arts

1. Courses required for the Pharmacy Curriculum:

English 1 or 7a and 2	6	semester	hours
Speech 3 or 5	2	semester	hours
Algebra and Trigonometry	5	semester	hours
American History or Government	5	semester	hours
Zoology	5	semester	hours
Chemistry	8	semester	hours
Physics	8	semester	hours
Accounting	3	semester	hours
Botany	5	semester	hours
Qualitative Analysis	3	semester	hours
Economics	5	semester	hours
		semester	
Electives	2	semester	hours
Physical Education	2	semester	hours

2. Suggested order of study:

FRESHMAN YEAR

First Semester	Second Semester
Algebra & Trigonometry 5 hours Chemistry 5 hours Zoology 5 hours Physical Education 1 hour	American History 5 hours Chemistry 3 hours Qualitative Analysis 3 hours Botany 5 hours Physical Education 1 hour
the distance of the same of th	
16	17

First Semester	Second Semester
English 1 3 hours Physics 1 5 hours Quantitaive Analysis .5 hours Accounting 1 3 hours	English 2 3 hours Economics 5 hours Physics 2 3 hours Speech 3 or 2 hours Electives 2 hours
-	-
10	16 on 15

PHYSICAL EDUCATION CURRICULUM

Degree: Associate in Arts

1. Courses required for the Physical Education Curriculum:

English 1 or 7a and 2 6	semester	hours
Speech 3 or 5		
Mathematics 3		
Literature 3	semester	hours
Science10	semester	hours
Hygiéne 3	semester	hours
American History 5	semester	hours
U. S. and State Government 5		
Recreational Activities 3	semester	hours
Problems in Intramural Sports 3	semester	hours
Electives	semester	hours
Physical Education	semester	hours

Electives should be chosen from General Psychology, Educational Psychology, Rules and Officiating, Art Appreciation, Music Masterpieces and Scouting and Boys' Work.

2. Suggested order of study:

FRESHMAN YEAR

Conned Compaten

First Semester	Second Semester
English 1 3 hours American History or Physical Scieńce 5 hours General Psychology . 3 hours Problems in Intramural Sports 3 hours Hygiene 3 hours Physical Education 1 hour	English 2
18	17
SOPHOMOI First Semester	RE YEAR Second Semester
Zoology	Anatomy and Physiology 5 hours Speech 3 hours Music Masterpieces 2 hours Scouting and Boys' Work 2 hours Educational Psychology 3 hours State Government 2 hours
16	17

PHYSICAL THERAPY CURRICULUM

Degree: Associate in Arts

1. Courses required for the Physical Therapy Curriculum:

English 1 or 7a and 2	6	semester	hours
Speech 3 or	5	semester	hours
English Literature	3	semester	hours
General Biology	5	semester	hours
General Zoology	5	semester	hours
Chemistry	5	semester	hours
inclinaty concect hybrox	-	semester	
Mathematics	-	semester	_
		semester	
American History	5	semester	hours
Psychology	9	semester	hours
Electives 7 or	5	semester	hours
Physical Education	2	semester	hours

2. Suggested order of study:

FRESHMAN YEAR

First Semester	Second Semester
English 3 hours Chemistry 5 hours Mathematics 3 hours General Psychology 3 hours Physical Education 1 hour	English 3 hours General Biology 5 hours American History 5 hours Sociology 3 hours Physical Education 1 hour 17

First Semester	Second Semester
College Physics	English Literature3 hours Speech
16	16 or 17

SOCIAL WORK CURRICULUM

Degree: Associate in Arts

1. Courses required for the Social Work Curriculum:

English 1 or 7a and 2
Speech 3 or 2 semester hours
Literature
Biological Science 5 semester hours
Economics
U. S. Government and State Government 5 semester hours
Psychology
Sociology
American History
Electives in Arts and Science Courses24 semester hours
Physical Education 2 semester hours

2. Suggested order of study:

FRESHMAN YEAR

First Semester	Second Semester
English 1 3 hours Science or Elective 5 hours Sociology 3 hours American History 5 hours Physical Education 1 hour	English 2
17	16
SOPHOMO	ORE YEAR
First Semester	Second Semester
Literature 3 or 112-3 hours Psychology3 hours Electives10 hours	Economics 5 hours Literature 4 or 12 2-3 hours Electives 8 hours
15 or 16	15 or 16

ELEMENTARY EDUCATION CURRICULUM

Degree: Associate in Arts

1. Courses required for the Elementary Education Curriculum:

English 1 or 7a and 2	6	semester	hours
English Lit. or Foreign Language	6	semester	hours
Speech 3 or	2	semester	hours
American History	5	semester	hours
United States and State Government	5	semester	hours
Biological Science	5	semester	hours
Physical Science, Chemistry or Physics	5	semester	hours
General Psychology	3	semester	hours
Georgraphy	3	semester	hours
Child Psychology	3	semester	hours
Electives 1	9	semester	hours
Physical Education	2	semester	hours

2. Suggested order of study:

FRESHMAN YEAR

First Semester	Second Semester
English 1	English 2
Speech 3 or 2 hours	American History or
Physical Science or	Physical Science5 hours
American History 5 hours	*Music Masterpieces 2 hours
General Psychology3 hours	*Music Fundamentals 3 hours
Geography	Algebra 3 hours
Physical Education1 hour	Physical Education1 hour
	All All All a law assessment of the contract o
17	17

^{*}Not required if student has good background in Music Recommended elective — Art Appreciation.

First Semester	Second Semester
English Literature3 hours	English Literature 3 hours
Biological Science or	Government or
Government5 hours	Biological Science 5 hours
Art Education3 hours	Educational Psychology 3 hours
Public School Music2 hours	Children's Literature 2 hours
Child Psychology 3 hours	Hygiene 3 hours
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SECONDARY EDUCATION CURRICULUM

Degree: Associate in Arts

Associate in Science

2. Suggested order of study:

FRESHMAN YEAR

FRESHMAN	YEAR
First Semester English 1	Second Semester English 2
17	16
SOPHOMORE	YEAR
First Semester	Second Semester
English Literature3 hours Fine Arts Appreciation 3 hours	English Literature3 hours Government
Adolescent Psychology 3 hours Electives	or Economics5 hours Educational Psychology 3 hours Electives5 hours

SECTION 3

EXPLANATION

Definition of Semester Hours: The hour, which is the unit of credit given in the College, is the equivalent of a subject pursued one period per week for one semester. Thus, a course valued at two semester hours' credit will normally meet two hours per week for one semester.

Course Numbers: Each course has been given a number which follows the name of the course. The small letters indicate the semester or semesters in which the course is usually offered: "f" designates a course offered in the fall semester; "w," the winter semester.

Technical Education Courses:

See Section 4.

ARTS AND SCIENCE

1. ENGLISH AND SPEECH

a. English

English 1 (f and w). A study of the principles of effective writing based largely upon expository prose models. Students who show exceptional ability may be permitted to substitute English 7a for the English 1 requirement. 3 hours.

English 2 (f and w). Prerequisite, English 1 or 7a. A course that develops reading comprehension through an introduction to types of literature and offers practice in expository writing. 3 hours.

English 7a (f). A special composition course for freshmen who demonstrate exceptional proficiency in the mechanics and effectiveness of expression in English. 3 hours,

Exposition 7 (f). Prerequisite, English 1 or 7a and 2, or their equivalent. A study of the techniques of factual writing and the writing of non-fiction. Recommended for all students, especially for those entering professional schools. 3 hours.

Survey of Journalism 14 (f and w). No prerequisite. Open to freshmen and sophomores who want an opportunity to try various types of work in the field of journalism and who want to become active on the staff of the college paper. 1 hour.

Survey of Journalism 15 (f and w). Prerequisite, Survey of Journalism 14. Open to freshmen and sophomores. 1 hour.

Masterpieces of Literature 3 (f). No prerequisite. World literature with emphasis upon the early years. 2 hours.

Masterpieces of Literature 4 (w) No prerequisite. World literature, other than English, with emphasis upon the last three centuries and representative writers of the Eastern world. 2 hours.

English Literature 11 (f). Prerequisite, sophomore standing. A survey course in English literature from Beowulf to the Romatic Movement. 3 hours.

English Literature 12 (w). Prerequisite, sophomore standing. A survey course in English literature from the Romantic Movement to the present. 3 hours.

Children's Literature 13 (w). Prerequisite, English 1. A reading, lecture and observation course for elementary education students, including evaluation of children's literature, its historical development and its use in elementary schools. 2 hours.

b. Speech

Speech Techniques 5 (f and w). Prerequisite English 1 or 7a. A practical course designed to improve or to develop self-expression. Emphasis is placed on development of principles of effective oral cummunications. 2 hours.

Introduction to the Theatre 6 (f). Survey course in theatre history, stressing the contributions of playwrights, actors and social trends of all periods as contributing factors to the contemporary theatre. 3 hours.

Dramatic Interpretation 7 (f). The study and application of the principles and techniques of oral reading. The course includes an analysis of different types of prose and poetry for platform presentation. 3 hours.

Play Production 9 (w). A course dealing with the techniques and problems of mounting a play. The course includes a basic analysis of the construction of the drama, along with the basic elements of costume, stagecraft and make-up. 3 hours.

Beginning Acting 11 (f). A basic course in acting; character analysis and the creation of a role; stage movement and basic techniques. Attention given to individual and group rehearsals. Laboratory work includes taking part in some phase of the major production. 3 hours.

Beginning Directing 13 (w). Basic principles, skills, and techniques involved in the direction of plays. An analysis and study with practical demonstrations and class exercises of these fundamental principles of play directing. 3 hours.

Public Speaking 15 (f and w). Prerequisite, English 2 and Speech Techniques 5 or the approval of the instructor. Practice in preparation and delivery of impromptu and extemporaneous speaking, 3 hours.

Stagecraft (f and w). A laboratory and whenever possible, lecture course devoted to the mounting of the major productions. The course may be repeated for accumulation of 4 hours. 1 hour.

2. FOREIGN LANGUAGE

a. French

Elementary French 1 (f or w). (Students who have had only one unit of French in high school should take the elementary course). Conversation practice and vocabulary building. Pronunciation proficiency, essentials of grammar. Graded readings. 5 hours.

Intermediate French 2 (f or w). Prerequisite, Elementary French 1, or two units of high school French. Special emphasis on conversation and vocabulary building. Reading of stories and plays. 5 hours.

Advanced French 3 (f or w). Prerequisite, Intermediate French 2, or three or four units of high school French. Advanced conversation and

reading. Individual reading and reports. 3 hours.

b. German

Elementary German 1 (f or w). (Students who have had only one unit of German in high school should take the elementary course). Intensive practice in conversation to further proficiency in speaking the language. Vocabulary building and writing. Brief study of the essentials of grammar. 5 hours.

Intermediate German 2 (f or w). Prerequisite, Elementary German 1, or two years of high school German. Emphasis on the spoken idiom. Reading of stories and plays. Individual reading and reports. 5 hours.

Advanced German 3 (f or w). Prerequisite, Intermediate German 2, or three or four units of high school German. Advanced conversation and reading. Individual reading and reports. 3 hours.

c. Spanish

Elementary Spanish 1 (f or w). (Students who have had only one unit of Spanish in high school should take the elementary course.) Conversation and vocabulary building are most important in the course. Pronunciation proficiency and grammar essentials. 5 hours.

Intermediate Spanish 2 (f or w). Prerequisite, Elementary Spanish 1, or two units of high school Spanish. Conversation is stressed. Intermediate reading and composition. 5 hours.

Advanced Spanish 3 (f or w). Prerequisite, Intermediate Spanish 2, or three or four years of high school Spanish. Conversation is stressed. Rapid reading of Spanish masterpieces. Individual reading and reports. 3 hours.

3. MATHEMATICS

Algebra 1 (f or w). A basic course for students who are deficient in mathematics. No credit for students who have one or more units of high school algebra. 3 hours.

Trigonometry 2 (f or w). Prerequisite, one and one-half units of high school algebra, Algebra 1 or College Algebra 3. Study of trigonometric functions and their applications. (Two hours' credit for students offering trigonometry for entrance). 3 hours.

College Algebra 3 (f or w). Prerequisite, One and one-half units in high school algebra, Algebra 1 or Modern Mathematics 6. A course for students who do not expect to major in mathematics, engineering, or the natural sciences. 3 hours.

Algebra and Trigonometry 5 (f and w). Prerequisite, satisfactory score on departmental placement test and three units in high school mathematics. Students not meeting these requirements must earn a grade of "C" in Algebra 1, or 3, or Modern Mathematics 6, or have the consent of the instructor before enrolling. (Many Colleges of Engineering do not allow credit for the course, Algebra and Trigonometry). 5 hours.

Modern Mathematics 6 (f and w). Prerequisite, one year of high school mathematics or consent of the instructor. Basic elements of set theory and mathematical logic with applications to algebra and geometry. Also, a survey of several modern topics, 3 hours.

Statistics 7 (w). Prerequisite, College Algebra 3 or equivalent. Introduction to the basic concepts of statistical inference and to the methods of statistical analysis. 3 hours.

Slide Rule 8 (f and w). Prerequisite, trigonometry or concurrent registration in trigonometry. A laboratory course in the use of a log-log rule. A student may be excused if he passes a proficiency test. Meets two hours a week. 1 hour.

Analytic Geometry and Calculus 14 (f or w). Prerequisite, Algebra and Trigonometry 5, with a grade of "C," or four units of high school mathematics and a satisfactory score on departmental placement test. Differentiation and integration of algebraic functions. Conic sections. 5 hours.

Analytic Geometry and Calculus 15 (f or w). Prerequisite, Analytic Geometry and Calculus 14 with a grade of "C." Differentiation and integration of transcendental functions, polar coordinates, vectors, and applications. 5 hours.

Analytic Geometry and Calculus 16 (f or w). Prerequisite, Analytic Geometry and Calculus 15. Solid analytic geometry, infinite series, partial differentiation, and multiple integrals. 5 hours.

Differential Equations 17 (w). Prerequisite, Analytic Geometry and Calculus 16, or concurrent registration. Standard types of ordinary equations of the first and second order, linear equations with constant coefficients, and applications to geometry and physical science. 3 hours.

Selected Topics in Mathematics 20 (w). Prerequisite, Analytic Geometry and Calculus 14. A course to enrich the student's knowledge and promote his interest in various areas of mathematics, especially in the area of modern mathematics. Required of mathematics majors. 1 hour.

4. ENGINEERING

Engineering Drawing 1. (f). Study of use of drawing instruments, lettering, technical sketching, tracing and blue printing. A. S. A. standards are basis for drafting conventions. 2 hours.

Descriptive Geometry 2 (w). Prerequisite, Engineering Drawing 1. Practical applications of principles to problems of geology and mining, and mechanical and architectural engineering. 2 hours.

Engineering Drawing 3. (w). Prerequisite, Engineering Drawing 1. Screw thread, bolts and nuts, detail and assembly, gear and cam de-

sign, topographical and pattern drafting. 2 hours.

Architectural Drawing 4 (w). Prerequisite, Engineering Drawing 1. The fundamental principles of house planning, including materials of construction and room arrangements. Plans will be drawn of some suitable building. 2 hours.

Plane Surveying 9 (f and w). Prerequisite, trigonometry. An introductory course. A study of adjustment and use of surveyor's compass, levels, plane table and alidade, and transit. Field work in chaining, profile and differential leveling, traverse, land survey, etc. 2 hours.

Fundamentals of Electrical Engineering 11 (f or w). Prerequisite, General College Physics 3, or should be taken concurrently. D. C. networks; branch currents, loop currents and nodal methods; Norton's and Thevenin's theorems; simple magnetic circuits; inductance; capacitance. Three lecture hours per week. 3 hours.

Statics 13 (w). Prerequisites, Physics 3 and concurrent registration in Analytic Geometry and Calculus 16. The principles of mechanics as applied to problems of engineering in which the structures under consideration are in static equilibrium. 3 hours.

5. PSYCHOLOGY

General Psychology 1 (f and w). Principles which control individual human behavior. Prerequisite for all other courses in psychology. 3 hours.

Child Psychology 3 (f). Prerequisite, General Psychology 1. Consideration of theories, principles, and characteristics associated with the mental and physical growth of the child. Study to include relationships with others with emphasis on the ways in which fundamental needs may be met in daily living. 3 hours.

Adolescent Psychology 4 (f). Prerequisite, General Psychology 1. The development, behavior, special problems and characteristics of the pre-adolescent and adolescent with study given for proper guidance. 3 hours.

Educational Psychology 5(w). Prerequisite, General Psychology 1. A general course designed to acquaint the student with some of the scientific psychological trends. Principles for developing and improving the

teaching-learning processes receive special consideration. Open to fourth-semester education majors only. 3 hours.

The Psychology of Personal Adjustment 6 (f). Prerequisite, General Psychology 1, or the consent of the instructor. Emphasis on certain psychological principles that, if applied, would result in optimum emotional maturity. 3 hours.

Abnormal Psychology 7 (w). Prerequisite, General Psychology 1 and approval of the instructor. Introduction to the study of abnormal behavior including attention to causes, psychodynamic factors, patterns and prevention of abnormal behavior. Open only to students with understanding of basic psychological, principles and associated teminology. 3 hours.

6. SCIENCE

a. BIOLOGICAL SCIENCE

General Biology 1 (f). This course is recommended for those students who plan to take only five hours of biological science. No credit for students who have credit for General Zoology 1 or General Botany 2. A cultural course in the field of biology planned to give the student basic concepts in the fundamentals of biology and the application of these concepts to modern living. Three one-hour lecture periods and two two-hour laboratory periods per week. 5 hours.

General Zoology 1 (f). A detailed study of a vertebrate animal, followed by a general survey of the animal groups and studies of representatives of these groups. Three one-hour lecture periods and two-hour laboratory periods per week. 5 hours.

General Botany 2 (w). A liberal education course emphasizing general biological principles, especially as applied to plants, consisting of a detailed study of structure, function, and life cycle of selected typical seed plants plus a survey of the Plant Kingdom and its evolution. A one-semester, five-hour laboratory course consisting of three one-hour lecture periods and two two-hour laboratory periods per week. 5 hours.

Hygiene 3 (f and w). Study of principles of personal and social hygiene and public health. 3 hours.

Anatomy and Physiology 5 (w). Prerequisite, General Zoology

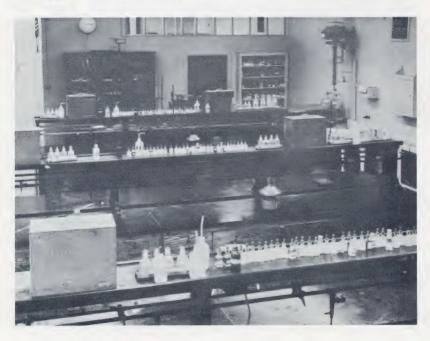
1 with minimum grade of "C" Includes study of structure of the cell, skeletal and muscular and nervous systems, and introduction to embryology. 5 hours.

b. PHYSICAL SCIENCE

General Chemistry 1 (f and w). Prerequisites, One and a half units of high school algebra, one unit of geometry, and a satisfactory score on an entrance test or Algebra 1, or Modern Mathematics 6. Introduction to theories of chemistry with emphasis on the relationship of structure to properties of matter and the quantitative aspects of changes. Three lectures, one 3-period laboratory, and one problem-solving session per week. 5 hours.

General Chemistry 2 (f and w). Prerequisite, General Chemistry 1 with a minimum grade of "C." A continuation of General Chemistry 1. Emphasis on applications of chemical equilibrium, electro-chemistry, aqueous solutions, and the chemistry of the elements as periodic groups. Three lectures and one problem-solving session per week. 3 hours.

Qualitative Analysis 3 (w). Prerequisite, Preceded or accompanied by General Chemistry 2. Identification of cations and anions. Application of principles presented in General Chemistry 2. One lecture and six periods of laboratory per week. 3 hours.



Quantitative Analysis 4 (f). Prerequisite, Eight hours of college chemistry. Includes volumetric, gravimetric, and some potentiometric and spectrophotometric analyses. Three lectures and two three-period laboratories per week. 5 hours.

Organic Chemistry 5 (w). Prerequisite, Eight hours of college chemistry. Deals with both aliphatic and aromatic compounds, their structure, nomenclature, and reaction mechanisms. Three lectures and two three-period laboratories per week. 5 hours.

Fundamentals of Physical Science 1 (f and w). A course planned to give the student an image as to how science has developed historically, the basic concepts in fundamentals of chemistry, physics and other sciences, applications of science to modern living, and a picture of some possible developments. Lecture, laboratory and demonstrations. 5 hours.

Elementary College Physics 1 (f). Prerequisite, Two units of high school algebra or College Algebra 3. Includes study of mechanics, properties of matter, heat, wave motion and sound. Lecture, laboratory, demonstration and problem-solving periods. 5 hours.

Elementary College Physics 2 (w). Prerequisite, Elementary College Physics 1. Includes study of electricity, magnetism, light and topics from modern physics. Lecture, recitation and problem-solving periods. 3 hours.

General College Physics 3 (f and w). Prerequisite, Analytic Geometry and Calculus 14. Analytic Geometry and Calculus 15 should be taken concurrently. Includes the study of mechanics, properties of matter, heat, wave motion and sound. Lecture, laboratory, problem-solving periods. 5 hours.

General College Physics 4 (f and w). Prerequisite, General College Physics 3. A study of electricity, magnetism, and light, with introductions to quantum properties of radiation and matter and to nuclear reactions. Lecture, laboratory, and problem-solving periods. 5 hours.

Introduction to Modern Physics 20 (w). Prerequisites, Analytic Geometry and Calculus 16 and General College Physics 4. A study of electrons, photo-electricity, relativity, quantum theory, positive rays, X-rays, elementary spectroscopy, radioactivity, atomic and nuclear structure, nuclear energy, and fundamental particles. Taught by lecture and problem solving. This course is designed for physics and engineering majors. 3 hours.

7. SOCIAL SCIENCE

a. Geography

Introduction to Geography 1 (f). A study of major climatic regions. Special emphasis is placed upon products of these regions; their importance in international trade; and their effects on populations. 3 hours.

b. History

Modern European History 3 (f). Study of growth of nations, and cultural and political developments from 1492 to 1815. 3 hours.

Modern European History 4 (w). Study of development in Europe from the Congress of Vienna to the present. 3 hours.

American History 5 (f and w). The foundations of American nationality, with special emphasis on the European heritage, evolution of colonial and national institutions, social and intellectual problems and the war between the states; the post-Civil War period with emphasis on the development of labor, farm, and business organizations, the growth of the Progressive tradition in politics and the United States' involvement in contemporary world affairs. 5 hours.

c. Political Science

General Economics 8 (w). Prerequisite, Sophomore standing. An introduction of the American economy. A study of the functioning of the competitive system, organization of business and labor, the economic role of government, the problems of production and consumption, money and banking, price determination, international trade, business cycles, social movements and social legislation and economic welfare. 5 hours.

State Government 10 (f and w). The subject matter dealing with state and local government includes the following: a survey of some political ideologies, a study of constitutional structures; stress on popular government, examination of services and activities; and an analysis of selected major problems. 2 hours.

United States Government 11 (f and w). The subject matter is organized on principles and practices of government. Starting with the formation and structure of the federal government, successively, civil rights and responsibilities, legislature and public policy, administration, adjudication, and services and activities. 3 hours.

International Relations 12 (w). A general introductory course which includes the meaning of sovereignty, the evolution of the modern state system, factors which affect the power of a state, such as raw materials, political institutions, industrial, commercial and financial strength; the international positions and foreign policies of the great powers; history of recent international relations building for a more stable world. 3 hours.

Problems in Contemporary World History 13 and 14 (w). The United Nations is used as a basis for studying contemporary world problems. The course involves a study of this world organization, its structure and functions and its current problems. Students in the course will make a detailed study of the economic, social and political problems of a different country each semester. The class will meet one hour each week. 1 hour.

d. Sociology

General Sociology 1 (f and w). A survey of the development of man, human associations and social institutions, with a descriptive analysis of modern man and his socially determined activities and cultural growth. 3 hours.

The Family 2 (w). Study of factors which make or mar homes, and of ways to promote better homemaking. 3 hours.

Introduction to Social Work 3 (f or w). The purpose of this course is to acquaint the student with social welfare programs and the development of services. The course will include professional opportunities in social work. Tax supported and voluntarily financed health and welfare programs will be considered, 3 hours.

COMMERCE

1. GENERAL BUSINESS

Accounting 1 (f). Fundamental principles as applied to modern business practice, including theory of debits and credits, journals, ledgers, balance sheets, and profits and loss statements. Meets five hours each week, 3 hours.

Accounting 11 (w). Prerequisite, Accounting 1, or high school bookkeeping, or special permission of instructor. A study of various subjects, such as payrolls, insurance, depreciation, branch accounting, partnerships and corporations. 3 hours.

Accounting 12 (f). Prerequisite, Accounting 11. Application of accounting principles to manufacturing statements, inventories, valuation accounts, and other special topics, 3 hours.

Accounting 23 (w). Prerequisite, Accounting 12 or special permission of instructor. Cost accounting and special subjects, 3 hours.

Business Communications 2 (w). Prerequisite, English 1. Provides for the study of the principles for writing effective business letters. Students get experience in writing various kinds of letters: sales, credits, collection, adjustment, application and others. 3 hours.

Business Arithmetic 7 (f and w). A review of the fundamental process of arithmetic as applied to business. It also includes common and decimal fractions, percentage and markup, interest and bank discount, compound interest, payrolls and taxes, and financial statements. It should be taken concurrently with Accounting 1.3 hours.

Statistics 7 (w). (See under Mathematics)

Economics 8 (w). (See under Social Science.)

Introduction to Salesmanship 22 (f). An analysis of the techniques of personal, retail, and general selling. Selecting sales appeals, planning the approach, and the methods of effecting a favorable response. The objectives of the course are to develop skill in personal persuasion and to provide an introduction to modern selling activity. 3 hours.

Introduction to Business 24 (f). An introductory course in modern American business, including a study of the capitalistic system, ownership and organization, marketing, finance, law and taxation. Emphasis is placed on learning the "language" of business. The course provides a background for the student to choose an area for specialization. 3 hours.

Advertising 25 (w). A study of the general principles of advertising, with special emphasis upon its use by retail organizations, including mediums employed, sales promotion, layout construction, and copy writing. Principals of interior and window display for retail stores. 3 hours.

Business Law 30 (w). Prerequisite, Sophomore standing or the consent of the instructor. A study of the principles of law and its enforcement as applied to American business. The course includes contracts, agency and employment, negotiable instruments, personal property and bailments, and sales of goods. Special attention is placed on law terminology and cases and problems are used to illustrate the various aspects of business law. 3 hours.

Human Relations in Personnel Management 31 (f and w). A course in human relations with application of the dynamics of human behavior to industrial situations. 3 hours.

Business Organization and Management 32 (f and w.). Prerequisite six semester hours in business courses. A course in business organization and management with application of concepts and techniques to specific, realistic case situations. 3 hours.

2. SECRETARIAL

Shorthand 3 (f). (Beginning Shorthand). A theory course in which the principles of shorthand are studied. Vocabulary building is stressed. Not open to students who have completed one year of shorthand in high school, except by permission of the instructor. Typewriting should precede or parallel the course. Meets five days each week. 3 hours.

Shorthand 4 (w). (Intermediate Shorthand). Prerequisite, Shorthand 3 or any course in which the theory has been completed. This is a dictation course, with a review of theory, and special attention given to developing efficient transcription procedures. Dictation will range from 60 to 100 words per minute, depending upon the ability of the students. The minimum speed requirement by the end of the semester is to write at least 80 words per minute with 95 per cent or more accuracy. 3 hours.

Shorthand 13 (f). (Advanced Shorthand). Prerequisite, Short-

hand 4 or the ability to take dictation at 80 words per minute. The emphasis in this course is to develop accuracy in transcription as well as to increase the rate of transcription. Dictation will range from 80 to 140 words per minutes. The minimum requirement by the end of the semester is at least 100 words per minute with 95 per cent or more accuracy. 3 hours.

Shorthand 33 (w). (Advanced Shorthand) Prerequisite, Shorthand 13 or the ability to take dictation at 100 words per minute. This is a course for the development of expert stenographers. A great deal of emphsis is placed upon accuracy and rate of transcription, and production of mailable letters. Dictation will range from 100 words per minute to 160 words per minute. The minimum requirement by the end of the semester is at least 120 words per minute with at least 95 per cent accuracy. A student who has taken 9 hours of shorthand and has earned a 120-word per minute certificate may be excused from this course. 3 hours.

Shorthand 33a (w). This course is for students who have had two years of high school shorthand and wish a third course in college. The minimum requirement by the end of the semester is 130 words per minute with 95 per cent accuracy if the student has previously met the requirements of Shorthand 33. 3 hours.

Typewriting 5 (f). (Beginning Typewriting). The chief emphasis in this course is to learn to manipulate the typewriter efficiently. The development of speed is stressed so that the student will, upon completion of the course, have a fair rate which will be of use to him personally. A few simple letter styles are taught as well as manuscript writing and simple tabulation. Meets five days a week. 3 hours.

Typewriting 6 (w). (Intermediate Typewriting). Prerequisite Typewriting 5 or a good knowledge of the keyboard. This is primarily a letter-writing course. All the styles of business and personal letters are studied and written. Efficient methods of writing more difficult manuscripts and tabulations are also studied. Minimum requirement for passing is the ability to type 40 words per minute for ten minutes within the 5-error limit. 3 hours.

Typewriting 15 (f). (Advanced Typewriting). Prerequisite Typewriting 6 or the ability to write 40 words per minute for ten minutes and a knowledge of letter writing. Production of mailable letters, manuscripts, reports, addressing envelopes, etc., is emphasized. Complicated manuscripts, business reports, tabulations, form letters, and efficient use of multiple carbons are some of the materials which are studied. Minimum requirement for passing is the ability to write 50 words per minute for ten minutes within the 5-error limit. 3 hours.

Typewriting 16 (w). (Advanced Typewriting). Prerequisite Typewriting 15 or the ability to write 50 words per minute for ten minutes. Legal typing is introduced, and business forms are the chief emphasis in this course. The use of office typing projects to accustom the students to

office procedure is introduced the last part of the semester. Minimum passing requirement is 60 words per minute within the 5-error limit. 3 hours.

Secretarial Procedures 21 (w). Business ethics, secretarial duties common to all lines of business, such as handling mail, meeting callers, and using the telephone, etc. The student receives instructions in the use of present day filing systems and their application to the various types of business. This course is offered for sophomores in the General Business curriculum. Freshman may be admitted by permission of the instructor. 3 hours.

Office Machines 20 (f and w). Prerequisite, Typewriting. A laboratory course in the operation of the ten-key and full-key adding machines, the rotary and key-driven calculators, the transcribing machine, the posting machine and the spirit and stencil duplicators. The objective of the course is to develop enough skill for inital employment in the operation of these machines. Meets five days a week. 3 hours.

Office Machines 35 (f and w). Prerequisite, Office Machine 20. A laboratory course continuing the work as set up for Office Machines 20. Special emphasis is placed on developing additional skill in the operation of the rotary and key-driven calculators, the adding machines, the posting machine and the stencil duplicator. 3 hours.

FINE ARTS

1. ART

Art Composition 1 (f and w). Study of history, materials and methods of creative art. 3 hours.

Art Composition 2 (f and w). Prerequisite, Art Composition 1. Elementary training in drawing and color in relation to composition. 3 hours.

Art Composition 3 (f and w). Prerequisite, Art Composition 2. Study of pictorial organization. 3 hours.

Art Composition 4 (f and w). Prerequisite, Art Composition 3. Creative Art. 3 hours.

Art Education 5 (f). Study of history, materials and methods of creative art as used by elementary teachers. 3 hours.

Elementary Ceramics 6 (f and w). Prerequisite, Art Composition 1, or permission of the instructor. Introduction to materials and techniques in stoneware ceramics. 2 hours.

Art Appreciation 7 (f and w). Art in everyday life for the consumer. 3 hours.

Commercial Art 8 (f and w). Prerequisite, Art Composition 1, or permission of the instructor. Basic study of layout, techniques and media used in lettering, newspaper, magazine, poster, packaging and similiar advertising projects. 2 hours.

2. MUSIC

College Choir 1 (f and w). The College Choir is open to any properly enrolled student with previous musical experience in choral work. Auditions are held at the beginning of each semester. The College Choir is limited to 60 members and includes concerts and performances for civic clubs and area schools with a tour when possible. May be taken for four semesters. 1 hour.

Vocal Ensemble 2 (f and w). The Vocal Ensemble is a small group of select voices. This group performs for civic programs and at special recitals. May be taken for four semesters 1 hour.

Concert Band 3 (f and w). Open to all students with the consent of the director. The purpose of the Concert Band is to study and perform classic and contemporary works for winds. Performances include two major concerts each year and a portion of the Graduation and Baccalaureate exercises. May be taken for four semesters. 1 hour.

Stage Band 4 (f and w). Open to members of the Concert Band by consent of the director. Limited to 20 students. The purpose of the Stage Band is to study and perform techniques and literature available in the Concert Jazz field. Activities include two formal appearances each year, participation in Jazz Festivals, assemblies, and for civic groups. May be taken for four semesters. 1 hour.

Applied Music 5 (f and w). Applied music may be arranged for piano, voice, and most orchestral instruments. Two thirty-minute lessons or one sixty-minute lesson per week is required for major study. May be taken for four semesters. 1 hour.

Applied Music 6 (f and w). Applied music in a minor area may be arranged for piano, voice, and most orchestral instruments. One

thirty-minute lesson per week is required for minor study. String, wind, and voice majors are advised to minor in piano. May be taken for four semesters. $\frac{1}{2}$ hour.

Applied Music 7 (f and w). A second minor may be taken with the same requirements and credits as Applied Music 6.

Keyboard Techniques 8 (f). Applications or primary and secondary chords to accompaniment patterns, include secondary dominants and modulation. 1 hour.

Keyboard Techniques 9 (w). Continuation of Keyboard Techniques 8 including trans-position and emphasis on sight-reading and performance of a two-part invention. 1 hour.

Vocal Techniques 10 (f). Class instruction in the fundamentals of singing. Required of music majors who do not major or minor in voice. 1 hour.

Vocal Techniques 11 (w). Continuation of Vocal Techniques 10. 1 hour.

Woodwind Techniques 12 (f). Class instruction in teaching of woodwind. Intended for music majors. 1 hour.

Woodwind Techniques 13 (w.). Continuation of Woodwind Techniques 12. 1 hour.

Elementary Music Theory 14 (f). An intensive study of the basic materials of music developed through melodic, rhythmic, and harmonic dictation, sight singing and written harmony. Triads, inversions, cadences, diatonic moduation. 5 hours.

Elementary Music Theory 15 (w). Continuation of Elementary Music Theory 14. including non-harmonic tones, seventh chords, altered chords and chromatic modulation. 5 hours.

Advanced Music Theory 16 (f). Prerequisite, Music Theory 15. Advanced work in aural perception, Neapolitan Sixth chords, Augmented Sixth chords, ninth, eleventh, and thirteenth chords, harmonization of an unfigured bass and of soprano. 3 hours.

Advanced Music Theory 17 (w). Continuation of Advanced Music Theory 16. Modal harmony, introduction to contemporary music, study of forms and their development and composition in simple forms, including theme and variation and two-part writing. 3 hours.

Music Masterpieces 18 (f). Designed to enable one to understand music and its development through media, terminology, chronology and repertoire. Emphasis on music of the Romantic Period. Not intended for majors in music. 2 hours.

Music Masterpieces 19 (w). Designed to enable one to understand music and its development through media, terminology, chronology, and repertoire. Emphasis on the Classical Era, Baroque, Impressionism and the 20th Century. Not intended for majors in music. 2 hours.

Music Literature 20 (f). A comparative study of music literature characteristic of the Ancient through the Baroque periods. Includes the

development of musical forms and styles. Intended for majors in music since score reading is involved. 3 hours.

Music Literature 21 (w). Continuation of Music Literature 20. Includes motive development and thematic analysis. Classic through Contemporary periods. 3 hours.

Music Fundamentals 22 (f). A comprehensive study of the rudiments of music for the classroom teacher. Practice is given in simple ear training, rhythms, major and minor modes, and harmony, including use of the autoharp. Recommended for elementary majors with a limited background in music. 3 hours.

Public School Music 23 (w). A survey of music in the American schools with emphasis on the techniques employed in the elementary grades; materials and methods; the playing of simple melody instruments for elementary grades; use of the autoharp. Observations are scheduled in the Joplin schools, grade one through six, with some student teaching where possible. Prerequisite, background in music or Music Fundamentals 22. Recommended for music and education majors who may be asked to assist in elementary school music. 3 hours.

HEALTH AND PHYSICAL EDUCATION

Play and Games 1 (w). Activities suitable for the playground, recreation centers, elementary and secondary schools. This course will not substitute for Physical Education. 2 hours.

Problems in Intramural Sports 5 (f). Designed to teach men how to carry on a program of intramural and recreational activities. Study of the rules and practice of touch-football, six-man football, soccer, handball, wrestling, boxing, apparatus and tumbling. 3 hours.

Recreational Activities 6 (w). Study and practice of adult sports adaptable to junior and senior high school facilities and to recreational centers. Volleyball, badminton, tennis, speedball, flashball, golf, softball and baseball. 3 hours.

Rules and Officiating 11 (f). The rules of football and basketball and the mechanics of officiating these sports. 2 hours.

Scouting and Boys' Work 12 (w). Fundamental principles of the physical, mental and spiritual development of boys through the agency of various boys' clubs; how to conduct club meetings; the delinquent boy,

program building and the principles of scouting; preparing teachers as Scout leaders. 2 hours.



This trophy case features the "JUCO" College Mascot.

PHYSICAL EDUCATION

All men and women students are required to take two courses in physical education for graduation from Missouri Southern College.

Physical Education 1 and 2 (f and w). Freshmen Men. Two periods each week. The activities offered will be decided by the instructor. 1 hour each semester.

Physical Education 3 and 4 (f and w). Freshmen Women. Two periods each week. The activities offered will be decided by the instructor. 1 hour each semester.

Physical Education 5 and 6 (f and w). Sophomore Men. Two periods each week. A continuation of 1 and 2. 1 hour each semester.

Physical Education 7 and 8 (f and w). Sophomore Women. Two periods each week. A continuation of 3 and 4. 1 hour each semester.

SECTION 4

TECHNICAL EDUCATION DIVISION

The Technical Division of Missouri Southern College is designed to help students prepare for responsible jobs in technical employment. Approximately half of the student's time will be spent in the major technical area of interest. The remainder of time is spent in technically-related and/or general education subjects that lead toward the development of a well-trained technical worker. In addition to the subjects that are taught to develop skills and give technical knowledge, general education courses are included to give the student a more thorough understanding of his duties and responsibilities as a citizen and technician.

The Guidance Department of the College and the services of the Missouri State Employment Service will be combined to carefully select people who will profit most by technical training. Students who satisfactorily complete a Technical Curricululum may receive special assistance from the Missouri State Employment Service in locating satisfactory employment that will utilize their newly-attained skills and knowledge.

The Technical Division of Missouri Southern College is housed in the Franklin Technical School, 13th and Pearl, where the technical shop skills are taught. General education subjects are taught as a part of the regular College program on the main campus.

ADMISSIONS

An application may be made by submitting a high school transcript to the Director of the Technical Division. All applicants will be screened and tested by the Missouri Southern College and the Missouri State Employment Service.

Applicants above 20 years of age who are not high school graduates and have passed the General Educational Development tests may enter when they have passed the required tests and have satisfied the school that they will profit from the course. The College Technical Division reserves the right to refuse any applicant who does not propose to use the training for entry into employment, and does not have the necessary ability and background.

If the classes are full at the time the application is made, the applicant will be placed on the waiting list. If there is a sufficient number, another class will be organized.

ATTENDANCE

Regular attendance is required for satisfactory completion of work. Students who are not making satisfactory progress will be requested to withdraw after adequate counseling.

EXPENSES AND PAYMENTS

See page 23. No special laboratory or breakage fees are required.

CREDIT

All Technical courses taken at Franklin Technical School receive junior college credit and may apply toward the requirements for the Missouri Southern College Associate in Technology degree.

REQUIREMENTS FOR GRADUATION

Upon completion of the prescribed courses as stated in the catalog, the student will be eligible for graduation.

EVENING CLASSES

Evening classes will be offered in any of the technical courses in which there is a sufficient number enrolled to justify a class.

ELECTRONIC TECHNOLOGY

The Electronic Technology is in an area having facilities for 20 students at one time in the laboratory and a class area for lectures and demonstrations. The equipment consists of the Philoo Electronics Training Course, Oscilloscopes, Volt Meters, Ohm Meters, Signal Generators and Tube Testers and many pieces of circuit testing instruments.

MECHANICAL TECHNOLOGY

At Franklin Technical School, a completely modern-equipped industrial type drafting room is available with drafting machines, special drafting tables, and many industrial drafting aids. These make it possible for the student to develop skills on specialized or industrial-type equipment. The machine shop is recognized as one of the most modern school-equipped shops in the midwest. Sufficient numbers of industrial-type machines are available in the area of lathes, vertical mills, horizontal mills, shapers, drill presses, surface, interior and external machine grinders, and special machines such as radial drills, turrets, and profile machines to equip students with technical operational skills and information.

ELECTRONIC TECHNOLOGY

Degree: Associate in Technology

1. Courses required for Electronic Technology:		
*Basic Technical Mathematics 110	No.	Credit
English 1 and Technical Report Writing 1315	sem.	hours
Technical Mathematics 111 or Algebra and		
Trigonometry 5 3-5	sem.	hours
Technical Mathematics 112 or Analytic		
Geometry and Calculus 14 3-5	sem.	hours

^{*}Basic Technical Mathematics is for students who do not have adequate mathematical background.

Technical Drafting or Engineering Drawing 1
Graphic Analysis 115
Technical Sheet Metal 170
Fechnical Electronics Courses 140, 141, 142, 143, 144, 145, 146, 148, 149
United States Government 11 and State Government 10
Technical Science 190 or Elementary College Physics 1
Research Report 191
Physical Education 2 sem. hours

2. Suggested order of study:

FRESHMAN YEAR

First Semester	Second Semester
Technical Mathematics 111 3 hours or Algebra and Trigonometry 5 5 hours Technical Drafting 120 3 hours or Engineering Drawing 1 2 hours English 1 3 hours Technical Sheet Metal 170 3 hours Electronics and Electrical Fundamentals 141 6 hours Physical Education 1 hour 19-20	Technical Mathematics 112 3 hours or

SOPHOMOR	RE YEAR
First Semester	Second Semester
Technical Science 190 3 hours or Elementary College Physics 1 5 hours United States Government 11 3 hours Circuit Tracing 144 3 hours Electronic Circuit Design and Analysis 145 6 hours Transmitter Theory and Operation 146 6 hours	Research Report 191
21 or 23	18

MECHANICAL TECHNOLOGY

Degree: Associate in Technology

1. Courses required for Mechanical Technology:
*Basic Technical Mathematics 110 No Credit
English 1 and Technical Report Writing 131 5 sem.hours
Technical Mathematics 111 or Algebra and Trigonometry 5
Technical Mathematics 112 or Analytic Geometry and Calculus 143-5 sem. hours
Technical Drafting 120 or Engineering Drawing 1
Technical Machine Courses 161, 162, 163, 164 and 122
United States Government 11 and State Government 10
Technical Science 190 or Elementary College Physics 1
Research Report 191
Technical Drafting 121 3 sem. hours
Technical Welding 180 3 sem. hours
Quality Control Methods 165 3 sem. hours
Strength of Materials 166 3 sem. hours
Production Planning and Process 1673 sem. hours
Physical Education

^{*}Basic Technical Mathematics is for students who do not have adequate mathematical background.

2. Suggested order of study:

FRESHMAN YEAR

First Semester	Second Semester
Technical Mathematics 111 3 hours or Algebra and Trigonometry 5 5 hours Technical Drafting 120 3 hours or Engineering Drawing 1 2 hours English 1 3 hours Technical Sheet Metal 170 3 hours Technical Machine Oper. 161 6 hours Physical Education 1 hour	Technical Mathematics 112 3 hours or Analytic Geometry and Calculus 14 5 hours Technical Report Writing 131 2 hours Graphic Analysis 115 3 hours Technical Machine Oper. 162 6 hours Technical Drafting 121 3 hours Physical Education 1 hour
19-20	18-20

SOPHOMORE YEAR

First Semester

Technical Science 1903	hours
or	
Elementary College Physics 15	hours
Technical Welding 1803	hours
United States Government 113	hours
Technical Machine Oper. 1636	hours
Strength of Materials 1663	hours
0	

18 or 20

Second Semester

Research Report 191	1 hour
State Government 102	hours
Technical Machine Oper. 1646	hours
Technical Machine Design 1223	hours
Quality Control Methods 1653	hours
Production Planning and	
Processes 1673	hours

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COURSE DESCRIPTIONS

Industrial Power Distribution 90 (f and w). A lecture course on basic fundamentals of wiring electric circuits, voltage selection and regulation, power factor improvement, protection and control devices, preventive maintenance, system planning and equipment selection and grounding. 2 hours.

Basic Technical Mathematics 110 (f and w). A basic course for students who do not have credit in algebra and geometry. It cannot be substituted for Technical Mathematics 111. No Credit.

Technical Mathematics 111 (f and w). Review of basic mathematics, algebra, and the fundamental concepts of trigonometry; use of tables, solution of right triangles, with emphasis on application of mathematics to problems in electronics and mechanics. 3 hours.

Technical Mathematics 112 (w). Mathematics used in solving problems involving vectors and harmonic motion; complex notation and vector algebra; graphic methods used in solving problems relating to slope and rate of slope change; some basic calculus, including limits, differentation, and integration. 3 hours.

Technical Drafting 120 (f). Designed for students with limited experience in drafting. Use of templates, drafting machines and fundamental practices; electrical circuit drawing terms, symbols and standards. One hour lecture, two 2-hour laboratory periods per week. 3 hours.

Technical Drafting 121 (w). Prerequisite, Technical Drafting 120 or Engineering Drawing 1. Application of drafting techniques in respect to tolerance; threads, fasteners and springs; working drawings; axonometric projection; oblique projection, gearing, cams and technical engineering graphics. Laboratory 6 hours per week. 3 hours.

Graphic Analysis 115 (w). Graphic representation and graphic analysis. Layout methods used in pattern and template work, graphs, charts, and plots with an introduction to descriptive geometry and graphic calculus. Lecture one hour and laboratory two hours per week. Prerequisites, Technical Drafting 120, and Technical Mathematics 111, or equivalent. 3 hours.

Technical Sheet Metal 170 (f). An introductory course required for all students in technical courses, designed to provide skills in use of tools and machines as applied to light metals; special emphasis on soldering and layout. One hour lecture and 5 hours laboratory per week. 3 hours.

Technical Welding 180 (f and w). Introductory course required of all metal technical students. Basic principles for oxyacetylene welding, cutting and electric arc welding will be given. One hour lecture and five hours laboratory per week. 3 hours.

Technical Science 190 (f). Graphical and mathematical analysis of forces, laws of motion machines, mechanical power, fluid mechanics, and external conductivity. Course work is extremely practical in nature with the emphasis on applied problems. Lecture 3 hours, laboratory 3 hours per week. 3 hours.

Research Report (Special Problem) 191 (w.). Individual assignment to develop apparatus of special interest to the student with the instructor's approval. Frequent conferences between student and adviser will serve to guide the student's progress and the preparation of his report. This course may consist of library research dealing with the field of electronics or mechanics. The report should follow an accepted form of presentation. Laboratory 6 hours. 1 hour.

Technical Report Writing 131 (w). Techniques of collecting and presenting scientific data, informal reports and formal reports. Forms and procedures for technical reports are studied and a pattern is established for all formal reports to be submitted in this and other courses. Prerequisite, English 1. 2 hours.

Ultra High Frequency and Microwave 140 (f). Line sections, wave guides and cavities; UHF tubes and oscillators; kylstrons, magnetrons and traveling-wave tubes; microwave systems. Prerequisites, 141, 142 and 143. Three hours lecture and six hours laboratory per week. 6 hours.

Electronics and Electrical Fundamentals 141 (f). Includes basic physics of the electron, electro units, and Ohm's Law, resistance combinations, meter connections, magnetism and magnetic circuits and electric power. Characteristics of electric conductors, inductance and capacitance. Lecture 3 hours and laboratory a minimum of 3 hours per week. 6 hours.

Basic Electronics Concepts and Circuits 142 (w). Introduction to the technical concepts of electronic components and circuits. Principles of vacuum tubes and transistors; tuned circuits and basic circuits for power supplies, detectors, amplifiers and oscillators; radio receivers, use of basic testing devices and measuring instruments. It is designed to follow Electronics and Electrical Fundamentals 141, and should be taken concurrently with Time Varying Circuits 143. Lecture 3 hours and laboratory a minimum of 3 hours per week.6 hours.

Time Varying Circuits 143 (w). Characteristics of alternating current waves and time varying circuits; analyzing the behavior of alternat-

ing current components, phase and power factor; power measurement under balanced and unbalanced conditions; application of vector algebra in the analysis of series and parallel combinations of impedance. Lecture 3 hours, laboratory 6 hours per week. 3 hours.

Circuit Tracing 144 (f). Study of layout and representation. Problems in circuit design involving switches, relays and electronic components. Concentration of schematic representation of electronic equipment apart from the specific schematic diagrams for purpose of analysis and study. Prerequisite, Basic Electronics Concepts and Circuits 142. Lecture 1 hour, laboratory 3 hours per week. 3 hours.

Electronics Circuit Design and Analysis 145 (f). Acoustics and electro-acoustic devices; sound recording, design and testing of voltage and power amplifiers; inverse feedback, transistor amplifiers, computer circuits. A composite course covering several applications of electronics. The units covered are common to many fields of electronics and should be considered basic to the needs of an electronic technician. Prerequisite, Basic Electronics Concepts and Circuits 142. Lecture 3 hours and laboratory 6 hours per week. 6 hours.

Transmitter Theory and Operation 146 (f). Amplitude modulation and frequency oscillators and power amplifiers, antennas, modulation and radio-frequency measurements. Requirements for Government radio-operator licenses; electromagnetic transmissions and communication application. Prerequisite, Basic Electronics Concepts and Circuits 142. Lecture 3 hours, laboratory 6 hours per week. 6 hours.

Television Circuits 148 (w). Principles of television transmission and reception, with emphasis on circuits for pulseshaping that are used in other electronic applications; picture scanning synchronization, video amplifiers, colored television and industrial closed-circuit systems. The emphasis throughout this course is on circuit analysis and the behavior of wave-shaping circuits and not on T V servicing. Prerequisite, Transmitter Theory and Operation 146. Lecture 3 hours, laboratory 3 hours per week 3 hours.

Industrial Electronics 149 (w). Time constant and electronic timing circuits; photo electric controls; welder and motor controls; saturable reactors and magnetic amplifiers; synchro and servomechanisms; induction and dielectric heating; radiation detection; applications in the field of industrial control and automation; combination of electrical, electronic, magnetic and mechanical principles. Prerequiste, Basic Electronics Concepts and Circuits 142. Lecture 3 hours, laboratory 6 hours per week. 6 hours.

Technical Machine 161 (f). Principles underlying all metal cutting operation, measuring tools, and lathe tool grinding. The major portion of laboratory practice will be fundamental operation of the engine lathe. Vertical and radial drill press operation will be included. Lecture 3 hours laboratory 6 hours per week. 6 hours.

Technical Machine 162. (w). A continuation of technical information and laboratory experience; special skills in operation of the en-

gine lathe, turret lathe operation; tooling and set up of actual production job. Prerequisite, Technical Machine 161, or qualifying previous machine experience. Lecture 3 hours, laboratory 9 hours per week. 6 hours.

Technical Machine 163 (f). Technical information in layout, planning process and its general application. Milling flat, curved and irregular surfaces, use of index head, and special gear calculation and cutting. Shaper set up and use will be offered. Prerequisite, Technical Machine 161 and 162, or qualifying previous machine experience. Lecture 3 hours, laboratory 9 hours per week. 6 hours.

Technical Machine 164 (w). Technical information pertaining to tool steels, materials and heat treatment of various metals. The laboratory will provide experiences on grinders, surfacers, cylindrical, internal grinders, grinding milling cutter and reamers. Lecture 3 hours, laboratory 6 hours per week. 6 hours.

Technical Machine Design 122 (f). A study of manufacturing processes as they affect the designer; tolerances and allowances, springs, cutting tools, welding fabrication; punch and die design; elementary jig and fixtures; gages and gage design; practical design of jigs and fixtures, cam design; and turret-lathe tooling. A selected design will be built in the machine shop by the designer. Lecture and laboratory 6 hours per week. Prerequisite, Technical Machine 162 or 163, Technical Drafting 121 or qualified previous experience. 3 hours.

Production Planning and Processes 167 (w). Use of the operation sheet as applied to machine manufacturing. Emphasis is placed on modern production and process engineering methods, and their application to management and production planning. A study of purchasing, production control system, time study, and the use of electrical, mechanical, pneumatic and hydraulic controls to provide for automation. Lecture 3 hours, laboratory 3 hours. 3 hours.

Strength of Materials 166 (f). Important principles of mechanics used in strength of materials; center of gravity; stress and relationships; thin-walled cylinders and spheres; shear bending movements; deflection of simple beams; applied loads; columns stresses and fatigue strengths. Lecture 1 hour, laboratory 2 hours. 3 hours.

Quality Control Methods 165 (w). Study and observation of local plant quality control system. Problem of product quality and ways to improve quality practices; use of measuring instruments and procedure check methods. Lecture 2 hours, laboratory and plant visitations 4 hours. 3 hours.

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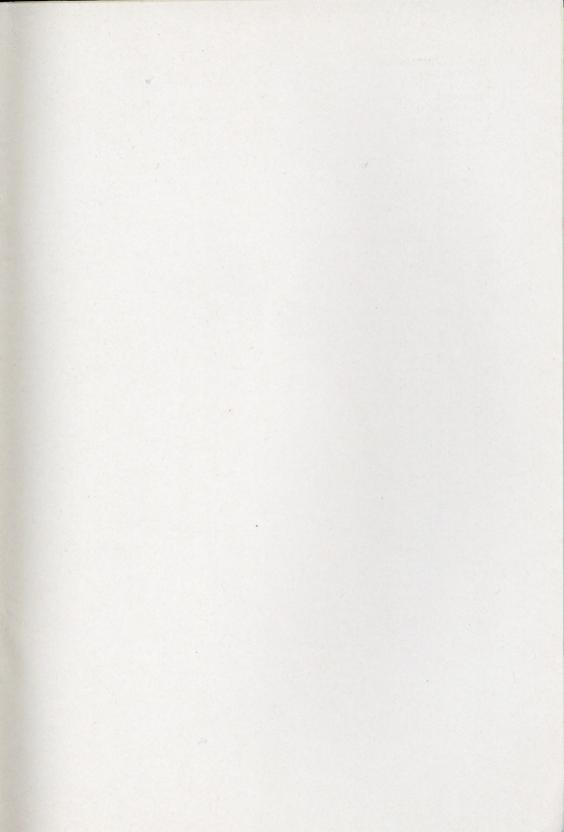
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